

HOW MUCH ENGLISH GRAMMAR?

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An Investigation of the Frequency of Usage of Grammatical
Constructions in Various Types of Writing together
with a Discussion of the Teaching of Grammar
in the Elementary and the High School

BY

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CONTENTS

	PAGE
INTRODUCTION. . . . BY M. V. O'SHEA	9
 CHAPTER	
I. THE NEED OF REVISED GRAMMAR COURSES	12
II. THE KINDS OF SENTENCES WE USE.	16
III. DEVELOPMENT IN CLAUSE CONTROL.	33
IV. PHRASES AND NON-MODAL VERB FORMS	53
V. THE RELATIVE IMPORTANCE OF THE EIGHT PARTS OF SPEECH	71
VI. WHAT WE NEED TO KNOW ABOUT NOUNS AND PRONOUNS . .	78
VII. VERB FORMS MOST FREQUENTLY USED.	113
VIII. THE EMPHASIS IN THE USE OF ADJECTIVES AND ADVERBS .	137
IX. THE FREQUENCY OF MINOR PARTS OF SPEECH	158
X. THE RELATION BETWEEN USE AND ERROR IN LANGUAGE	
COURSES	165
XI. PRESENT-DAY SCHOOL PRACTICE AND THE PLAN FOR REVISION	194
 APPENDIX.	 214
 INDEX.	 217

HOW MUCH ENGLISH GRAMMAR?

INTRODUCTION

In 1914 the present writer, in co-operation with Professor W. A. Cook, published the results of an investigation relating to the spelling vocabulary of pupils in American schools. The method of this investigation consisted in an examination of a large amount and variety of writing in order to discover what words are commonly used in written expression by typical adults in various walks of life. As a consequence of this investigation and others of the same character it has become possible to indicate definitely the list of words that should constitute the spelling vocabulary of pupils in the elementary and the high school. This method of determining the content of a subject taught in the schools received the approval of teachers and of students of education, and it was suggested to the writer by some of his correspondents that the method should be employed in the determination of the content of other subjects than spelling.

The writer had long been desirous of conducting an inquiry with a view to learning what grammatical constructions are commonly used by adults in their written expression, and it seemed to him that the method adopted in the study of the spelling needs of people could be advantageously employed in an investigation of their grammatical needs. So it was proposed to Professor M. J. Stormzand, who was then associated with the writer in the University of Wisconsin, that he should co-operate in the investigation, and he consented to do so. He was admirably equipped for the work, having had extensive experience as a teacher of languages, and having

conducted investigations in various branches of linguistics. He has applied himself diligently to this task for seven or eight years; and mainly as a result of his devotion and ability, the investigation has finally been brought to a successful conclusion.

This volume contains a vast amount of data presented in a simple, condensed, intelligible form; and the educational bearings of the conclusions reached are made prominent. It is shown herein what the grammatical needs of people in American life are, and how much and what phases of grammar should be stressed in language and grammar courses. It is shown beyond question that many grammatical constructions to which much attention is given in our schools play very little rôle in the written expression of American people, while other constructions that are not sufficiently stressed play an important rôle.

The data upon which the conclusions and suggestions contained in this volume are based are presented so that they can be easily comprehended. In its original draft the book contained seventy-four elaborate tables of figures, showing in numerical form the results of the study of every topic investigated, but the cost of publication as well as requirements of brevity compelled the elimination of many of these detailed tables. In place of such presentation, condensed forms have been used quite freely so that the reader may at a glance see how frequently different grammatical constructions are found in the various types of written expression which have been examined. Sample sentences are given to illustrate every variety of grammatical construction which has been studied, so that even if a reader's knowledge of grammar has become hazy he may see from the sample sentences exactly what is meant when any variety of grammatical construction is being discussed.

The data and conclusions appearing in this book should be of theoretical and practical value to all who are concerned in planning and teaching language and grammar courses in elementary and high schools, and they should also be of service to literary workers who are, or at least who should be, inter-

ested in the various types of linguistic technique employed by different persons who make writing a profession, and also by persons who use writing more or less naïvely merely to convey ideas to their friends or to the public.

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CHAPTER I

THE NEED OF REVISED GRAMMAR COURSES

Practical Revision of School Courses Needed.—Educators are beginning to recognize that their chief task at present is to determine, as speedily as may be consistent with scientific thoroughness, the proper content of the various parts or “studies” of the school curriculum. It is now generally agreed that such determination must be based largely upon the practical values and needs of real life. For each study in the course such questions as the following are being asked, and they must be answered if possible:

How does this study apply to the actual needs and uses of daily life?

What may be done to make the next generation more efficient than the present in the knowledge and skill dealt with in this branch of school work?

It is especially important that such questions as these should be answered with reference to that part of the curriculum now commonly designated as “language work,” but more formally designated in an earlier day as the study of English grammar. We ought, if we can, to secure answers to the following questions:

1. Just what phases of grammar does the typical American use in his every-day affairs?

2. In what respects does the typical graduate of the elementary or high school fail to meet the requirements of every-day life in regard to the use of grammar?

When accurate data relating to these matters are before us, we can examine present-day practice in the schools in grammar-teaching, and we shall be in a position to suggest such eliminations, modifications, or additions, as may be required to meet the needs of daily life.

The Problems of Language Work in the Schools.—Many persons are asking whether the science of grammar should be taught at all in the public schools. This is a pertinent question. In the present period of readjustment in the curriculum of the elementary and high schools, most of the older or "traditional" studies are under indictment. The off-hand answer of reformers in the case of grammar shows a tendency, developing rapidly, especially in the case of text-book makers, to eliminate "formal" grammar. It is being dismembered as a body of scientific knowledge and offered to pupils piecemeal, with a lack of agreement as to the relative importance or order of the various topics; and, more significantly still, it is being taught, "incidentally" as a minor phase of language study.

Again, many persons are asking,—“Does the study of the rules and principles function in the child’s use of language in every-day life?” “Does a person who writes and speaks correctly know the science of grammar?” “Is the person who speaks and writes incorrectly necessarily uninformed as to the rules of the science of speech?”

Let us suppose for the moment that we have an affirmative answer to these questions, so that we may say that at least some grammar should be taught, and that its study will function, at least to some extent, in the use of language. Then the problem arises,—What should be taught? What should be the content of the course in grammar? It is the purpose of the present investigation to seek an answer to these questions by a careful examination of the whole matter from two points of view:

1. What does present-day *usage* advise regarding the content of a grammar course?
 - (a) As shown by a study of a large mass of contemporary writing, ranging from the best types of classical prose to the ephemeral matter of the daily newspaper and “light” fiction.
 - (b) As shown by a study of the written work of pupils in all grades from the sixth through the high school and college, and also letters and articles written by adults.

2. What does present-day *need* advise regarding the content of the grammar course; especially as determining the relative emphasis that should be given various topics?
 - (a) This will take into consideration some previous studies that have been made by a number of investigators in the matter of persistent errors.
 - (b) And will be supplemented by a careful examination of all the material used in 1 (b) above, with the expectation of showing, not merely the relative frequency of various errors, but of establishing for these errors what may be called "Error Quotients," determined by using the frequencies of error for an individual or for a group as a numerator of a fraction, in which the denominator shall represent chances for error in any particular grammatical usage.

To these will be added:

3. A comparison of (1) and (2) with present-day practice in grammar teaching, as indicated by the content of several leading language and grammar text-books.

The problem of what phases of grammar are most commonly found in every-day usage was selected for investigation, not only because its solution is essential to the determination of the content of the grammar course, but also because it is fundamental to other problems that need to be investigated, as, for instance,—When should grammar be taught? Is it advisable to teach it as a complete unit anywhere in the elementary or high school? Is it advisable to spread grammatical study over a number of years of the curriculum, and if so, what topics are best suited to each grade? These questions can be answered only after the content of the course has been determined with some degree of accuracy, and after various arrangements suggested by the psychology of child development have been subjected to experimentation under usual school conditions.

The Method of Conducting This Investigation.—Ten thousand sentences selected from material that represented all grades of current usage were analyzed and parsed. The sentences were selected from the following sources:

1. Five hundred sentences from Macaulay;
2. Five hundred from Stevenson;
3. Three thousand five hundred sentences of newspaper articles;¹
4. One thousand five hundred sentences from university compositions;
5. One thousand sentences from high-school compositions;
6. One thousand sentences from fourth to eighth grade compositions;
7. Fifty letters, containing about eight hundred sentences, received by a leading Woman's magazine;
8. Fifty letters, containing five hundred sentences, sent out by business men;
9. Nine hundred sentences of present-day "light" fiction;²
10. Five hundred sentences of editorial material from newspapers and magazines.

All this material was examined for the purpose of determining frequencies in usage in respect to the following general grammatical topics:

1. Sentence structure.
2. Clauses.
3. Phrases.
4. Parts of speech.
5. Uses of nouns,—kinds, cases, and construction.
6. Uses of pronouns,—kinds, cases, and construction.
7. Verbs,—tense, mood, kinds, regularity.
8. Adjectives,—kind, comparison, regularity.
9. Adverbs,—kind, comparison.
10. The frequency of all other parts of speech.

These large topics, which constitute the main divisions of a complete course in grammar, are dealt with in the succeeding chapters.

¹ In tables and diagrams to follow the signed newspaper articles have been identified by the name or the *nom de plume* of the individual writers, as R. H. Little, "Lillian Russell," "Helen Herald." Much of the newspaper material was taken from several complete issues of the former Chicago Record-Herald.

² Harold Bell Wright and E. Philips Oppenheim.

CHAPTER II

THE KINDS OF SENTENCES WE USE

The Sentence the Key to the English Problem.—In both high-school and university instruction in English courses, increasing emphasis is being placed on the ability of students to write a “decent sentence.”

If we were to enquire what English teachers understand by a “decent sentence,” we should probably find that they agree on the following qualities:

1. A “decent sentence” must be free from mistakes in spelling, grammar, and punctuation.

2. It must have individuality, so far as its structure is concerned, so that all the sentences in a paragraph or composition will not be just alike. In other words, one should be able freely to use sentences of different types or forms or lengths in order to give variety and freshness to one’s writing.

Teachers of English ought to know what the usage in every-day life is. They should know what phases of sentence structure should be taught so that a high-school graduate shall be able to write as good sentences as are found in the daily newspaper or in the average business letter. We may be able to do more than this for some; we surely cannot do as much as this for all. But before we can measure our success, we must know what the real-life usage is.

What kind of sentences, then, do people use in every-day expression,—simple, compound, or complex? What rôle does the imperative or the exclamatory sentence play in the writing of most persons, judged by the frequency with which these forms are used in every-day life?

When we have answers to questions like these, we shall know what we ought to teach about the sentence. And when we know what knowledge and skill pupils must attain,

we shall then need to distribute this material for use in the different grades of the school courses, so that each part of it will come at the time when pupils are beginning to employ the usage in their spontaneous expression; or the best time to teach the various grammatical elements is when pupils feel the need for using new forms and new constructions.

Length of Sentences.—We shall be interested, first, to see if we can find a standard relating to the length of sentences in common use. In the analysis that was made of the ten thousand sentences taken from all varieties of written and printed material, it was found that the total number of words was approximately two-hundred thousand, which gives an average number of twenty words for the “every-day sentence.”

Pursuing our inquiry further, we discover some interesting facts relating to the length of sentences as used by adults, and some important indications as to the development of sentence mastery by pupils at different stages in their school work.

Some of the adult items examined in this study provide interesting variations from the average. In material selected from articles by William Hard and Arthur Brisbane, both editorial writers who have achieved a distinct “style,” we find short sentences used, by the former more strikingly than by the latter. Their respective averages are 14.4 and 18.1 words per sentence.

The reader should be cautioned, however, against drawing the conclusion that *short* sentences are always *simple* sentences. That this is not necessarily the case will be seen when we analyze the writing of Hard, Brisbane, and others a little farther along in this chapter.

The short sentence is characteristic of conversation as it is presented in written form. In sentences taken from a novel by Harold Bell Wright and a short story by E. Philips Oppenheim, the average number of words per sentence in their conversational material is 12.6 and 13.3 respectively. These figures must be compared with the non-conversational material of the writers. The average length of their sentences in narrative writing is 24.6 for Wright and 16.3 for Oppenheim.

In the absence of an analysis of actual conversational material, the averages given above may be taken as a provisional standard for the comparison of the sentence length in speech and in writing.

At the other extreme we note Robert Louis Stevenson, who uses 31 words per sentence. We shall have occasion in connection with several of the succeeding discussions and diagrams of sentence structure to note how easy a control of the sentence Stevenson had, when we consider that his reputation as a master of style rests largely on the clearness of his writing, while an analysis shows that he exceeds the averages in all those elements which involve synthetic and complicated sentence structure.

His nearest competitors for sentence length fall about seven words short of his average sentence; and such writers as Harold Bell Wright in his non-conversational material, some of the signed newspaper writers that were analyzed, and the writers of letters to the Chicago Herald gained nothing by the use of the long sentence. In fact, the long sentence is not, in their case, an evidence of sentence mastery, but is often an evidence of the lack of it.

The detailed tables on which this analysis is based show material from the fourth grade up through all of the twelve years of school and college work. Table 1 shows the development in sentence mastery at the various levels of school work. The average length of the sentences in the fourth grade material was approximately one-half the average of the total number of sentences investigated, or eleven words per sentence. This increases regularly throughout the twelve years of school life represented in our material, with the average sentence of the university freshman nearly equal to the adult average and the university upper-class student slightly exceeding this, with 21.5 words per sentence.

We get our first hint as to proper material for the grammar course in connection with the length of sentences.

If one can write at all, he can write short sentences. And he can be made to feel the rhetorical values in clearness, directness, and force in the purposeful use of the short sentence.

Monotony is not suggested; this may readily be avoided. If we are to apply the meaning of the success of such newspaper men as Brisbane and Hard to school procedure, we cannot overlook the value of the short-sentence "punch," the term practically invented to describe the style. Coupled with

TABLE 1.—LENGTH OF SENTENCES IN SCHOOL MATERIAL COMPARED WITH ADULT AVERAGE

Kind of material	Words per sentence	Excess or deficiency on basis of adult average
Adult average.....	20.9	
University		
Upper class.....	21.5	+ .6
Freshmen.....	19.9	-1.0
High school		
Seniors.....	19.8	-1.1
Juniors.....	18.0	-2.9
Sophomores.....	17.8	-3.1
Freshmen.....	17.3	-3.6
Grades		
Eighth.....	15.2	-5.7
Seventh.....	13.5	-7.4
Sixth.....	12.0	-8.9
Fourth.....	11.1	-9.8

this we find the effect of forcible simplicity further emphasized by Brisbane in his violation of our text-book principles in his use of the fragmentary paragraph. On the other hand, we have the Stevenson standard to work for—clearness in thought, precision, fine shadings in meaning—by the use of complex sentences. What better practice in sentence building could one suggest than exercises in the transformation of common-place, average sentences into, first, the Hard or Brisbane type, and then into the Stevenson type?

Kinds of Sentences.—The question of kinds of sentences used may be approached from two points of view,—the distinc-

tion on the basis of meaning, as declarative, interrogative, imperative, or exclamatory; or on the basis of form,—as simple, compound, or complex.¹

Sentences Classified According to Meaning.—On the basis of meaning, the story of the sentence is soon told. In all of the material analyzed, 92.2 per cent of the sentences were declarative, 6 per cent interrogative, and 1.8 per cent imperative. When we classify all of these sentences as exclamatory or non-exclamatory, we find only two per cent of the total in the former class.

At this point, as we begin our analysis of the tables that were assembled, it should be stated that a study was made of the material by comparison with two general norms or standards. These were:

1. The totals and their percentages of all the materials examined.

2. Adult averages, comprising a set of totals with corresponding percentages made up by taking nineteen of the

¹ At the proper places, in connection with the grammatical terms used, examples will be given to show just what is involved in the discussion. Some of these illustrations may seem too obvious and too familiar to be necessary, but for the sake of completeness and with some consideration for the reader not versed in the technical nomenclature, this method seems worthwhile.

(a) *Declarative Sentence.*—"Moreover, I lie here, by this water, to learn by root-of-heart a lesson which my master teaches me to call 'Peace, or Contentment.'"—Stevenson, "Apology for Idlers."

(b) *Interrogative Sentence.*—"How now, young fellow, what dost thou here?"—Ibid.

(c) *Imperative Sentence.*—"By all means begin your folio."—Stevenson, "Aes Triplex."

(d) *Exclamatory Sentence.*—"Atlas was just a gentleman with a protracted nightmare!"—Stevenson, "Apology for Idlers."

(e) *Simple Sentence.*—"A bird will sing in the thicket."—Ibid. Also (d) above.

(f) *Compound Sentence.*—"They have no curiosity; they cannot give themselves over to random provocations; they do not take pleasure in the exercise of their faculties for its own sake; and unless necessity lays about them with a stick, they will even stand still."—Ibid.

(g) *Complex Sentence.*—See (a) above.

twenty-eight types of material examined, so as to exclude the material from elementary school and high-school pupils, and university freshmen. These averages were intended especially as bases of comparison for the material of school levels with the expectation, resulting from observations made during the tallying, that these would indicate certain facts about the development of language habits from year to year in the life of school children.

When we apply this second norm, the adult average, to the question of the kind of sentences used in daily life we find but a slight modification of the percentages already given for the totals. The adult average for the interrogative sentence is slightly higher, being 4.9 per cent. The same is true of the imperative and exclamatory sentences.

The conclusion with respect to the prominence of these forms in the grammar course is easy to draw. While the interrogative and exclamatory sentences may be given some attention because they involve the possibility of error in punctuation at the end of the sentence, their infrequent usage will hardly warrant our making these forms very prominent. Additional consideration should be given to the fact that in most cases it is considered perfectly good form to use the period for the punctuation of the exclamatory sentence. Adequate emphasis on this mark of punctuation may be given in connection with lessons on the interjection, or on the use of the exclamation mark in punctuation within the sentence.

The interrogation mark and its frequent violation will be considered further in the chapter on errors. On the basis of frequency of usage, we can hardly claim much prominence for it in the school course. ■

Sentences Classified According to Form.—Diagram No. I shows the distribution of sentences according to form. Complex sentences occur most frequently, constituting 44.8 per cent of the total. Simple sentences constitute 38.0 per cent, and compound sentences 17.2 per cent. In comparing the adult average with the total, we find a slightly increasing tendency away from simple to complex sentences.

When we analyze the different items that make up these percentages, we discover a rather interesting story. The range in percentage of simple sentences as used by different writers varies from 21.8 to 64.8, the figures respectively for the material from Stevenson and Hard. These figures indicate the characteristic sentence structure of these writers, and may be taken as evidence of the possibilities involved in this phase of grammar in connection with the question of style.

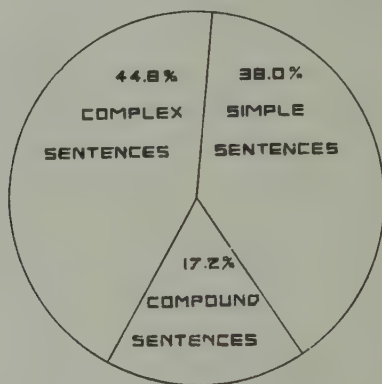


DIAGRAM I.—Kinds of sentences according to form.

The range in the percentages of the compound and the complex sentences used ought to be considered at the same time. The comparison of the percentages for these two types of sentences as used by these two writers reveals the peculiar qualities of style of each. Of Stevenson's sentences, 33.4 per cent are compound, twice the average; of Hard's, 10.2 per cent. Stevenson's percentage of complex sentences is exactly that of the average, 44.8, while Hard's is 26.0 per cent. Analyzing the compound sentences of Stevenson still more fully, we find that 73.6 per cent of them contain complex clauses, as compared with an average of practically 60 per cent for all of the material.

The next most striking fact about the forms of sentences used is that so many are near the average for all. Only a few items need to be noted as characteristic. The number of

simple sentences occurring in the material for the university upper classmen, a percentage of 22.2, (See Diagram II) is the second lowest figure and very nearly the same as that for Stevenson. This is not to be taken, however, as an indication that the university-student material is for this reason of

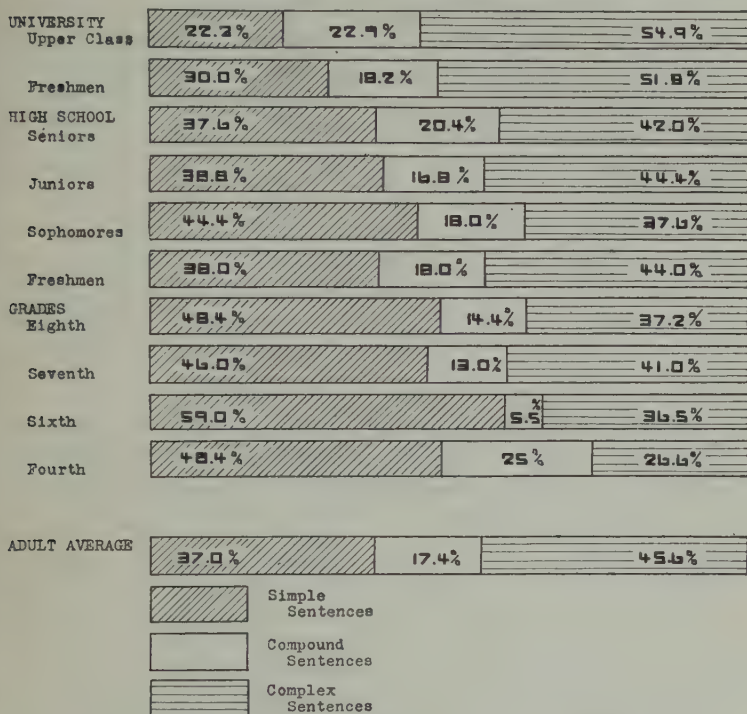


DIAGRAM II.—Showing development from the fourth grade to the university upper classes in the percentage of simple, compound, and complex sentences used, when compared with the adult standard.

comparatively high literary value. Perhaps it is due to the fact that this group shows up prominently in the complex sentence column, and the complexity of the university student's typical sentence is a complexity born of confused thought or inability to recognize violations of unity and clearness. This is in contrast to the mastery of sentence structure by Stevenson,

who uses the devices of subordination and relationship to develop refinements of thought, to condense his expression, or to produce variety.

Kinds of Compound Sentences.—Making a more detailed analysis of the kinds of compound sentences appearing in the material, we distinguish five classes,—those with two or more simple clauses, those with complex clauses, and the compound-interrogative, imperative, and exclamatory forms.¹ The detailed analysis of this data does not seem worth while. Over 95 per cent of all compound sentences were included in the first two classes, with about one-third in the first and two-thirds in the second class.

There is an interesting point, however, relating to the use of these types by school pupils at different stages. These are represented in Diagram III, which shows a decrease in the use of compound sentences with two or more simple clauses from 63.6 per cent in the fourth grade to 22.3 per cent in the university upper-class material. In contrast to this, the diagram shows an increase in the use of compound sentences with complex clauses from 36.3 per cent in the sixth grade to 77.7 per cent in the university upper-class material. The adult averages with which we compare these trends in the

¹ Kinds of compound sentences:

(a) *With Two or More Simple Clauses.*—"An inquiry must be in some acknowledged direction, with a name to go by; or else you are not inquiring at all, only lounging; and the workhouse is too good for you."—Stevenson, "Apology for Idlers."

(b) *With Complex Clauses.*—"Young man, ply your book diligently now, and acquire a stock of knowledge; for when years come upon you, you will find that poring upon books will be but an irksome task."—Ibid.

(c) *Compound-interrogative.*—"Is not this the hour of the class? and shouldst thou not be plying thy book with diligence, to the end thou mayest obtain knowledge?"—Ibid.

(d) *Compound-imperative.*—See (b) above.

(e) *Compound-exclamatory.*—" 'Learning, Quotha!' said he; 'I would have all such rogues scourged by the Hangman!' "—Ibid.

The last three types would also belong to either (a) or (b), but were tallied as belonging to these distinct sub-divisions.

development of sentence mastery are 32.8 for the compound sentence with simple clauses, and 62.1 per cent for compound sentences with complex clauses.

Kinds of Complex Sentences.—It was noted above that the percentage of complex sentences in the total number of

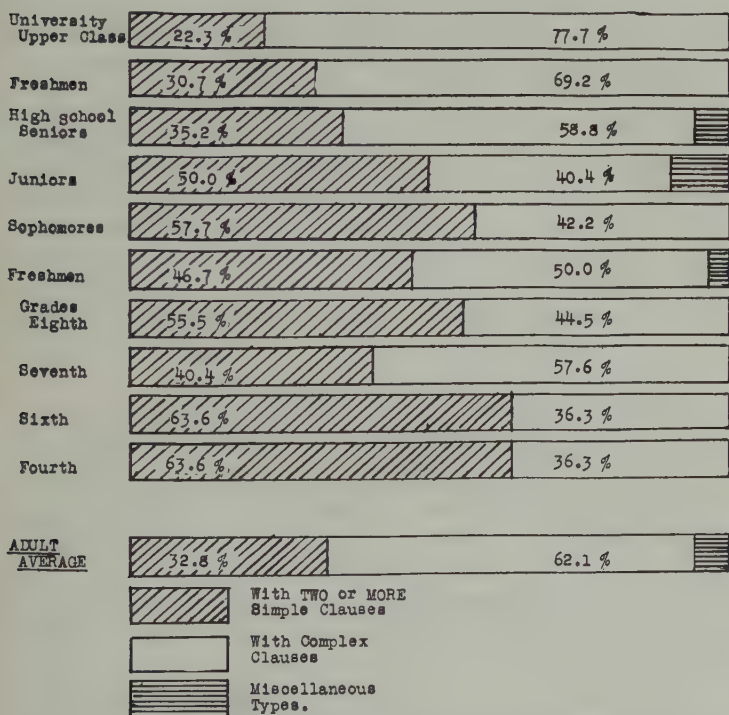


DIAGRAM III.—Showing development from fourth grade to university upper classes in the decrease of compound sentences with two or more simple clauses and in increase of compound sentences with complex clauses.

sentences was 44.8, and that for adults the average was 45.6 per cent. When we look over the table containing the 28 items of all the material, we find that the range for complex sentences varies from 26.0 (Hard) to 56.6 (Associated Press) per cent of the total number of sentences. The high percentage of complex sentences in Associated Press material is due to the

precaution taken to guard all statements sent over the wire by quoting authority or source of information. This will be brought out more clearly in our study of noun clauses in Chapter III.

All the material from the grades is below the average in complex sentences, as we might expect, since as a rule the intellectual processes of young pupils are not complex enough to require complex sentences for their adequate expression.

The kinds of complex sentences used furnish some valuable material as a basis for grammar courses. In analyzing the complex sentences, a record was kept of eight different types,—(1) those containing a single adverbial clause, (2) a single adjective clause, (3) a single noun clause, (4) compound or parallel dependent clauses, (5) complex or secondary dependent clauses, (6) complex interrogative, (7) complex imperative, (8) complex exclamatory sentences.¹ Table 2 shows the

¹ Kinds of complex sentences.

(a) *With Single Adverbial Clause*.—"A fact is not called a fact, but a piece of gossip, if it does not fall into one of your scholastic categories."—Stevenson, "Apology for Idlers."

(b) *With Single Adjective Clause*.—"Many make a large fortune, who remain underbred and pathetically stupid to the last."—Ibid.

(c) *With Single Noun Clause*.—"It is supposed that all knowledge is at the bottom of a well, or the far end of a telescope."—Ibid.

(d) *Compound-complex*.—"When they do not require to go to the office, when they are not hungry and have no mind to drink, the whole breathing world is a blank to them."—Ibid.

(e) *Complex-complex*.—"As if a man's soul were not too small to begin with, they have dwarfed and narrowed theirs by a life of all work and no play; until here they are at forty, with a listless attention, a mind vacant of all material of amusement, and not one thought to rub against another, while they wait for the train."—Ibid.

(f) *Complex-interrogative*.—"Do you really fancy you should be more beholden to your correspondent, if he had been damning you all the while for your importunity?"—Ibid.

(g) *Complex-imperative*.—"Even if your doctor does not give you a year, even if he hesitates about a month, make one brave push, and see what can be accomplished in a week."—Stevenson, "Aes Triplex."

(h) *Complex-exclamatory*.—"Only, what a chequered picnic we have of it, even while it lasts! and into what great waters, not to be crossed by any swimmer, God's pale Praetorian throws us over in the end!"—Ibid.

percentage of various kinds of complex sentences used in the adult material.

TABLE 2.—PERCENTAGES OF KINDS OF COMPLEX SENTENCES USED BY ADULTS

Kinds of clauses	Per cent
Single adverbial.....	18.0
Single adjective.....	19.0
Single noun.....	16.9
Compound-complex.....	4.4
Complex-complex.....	37.0
Complex-interrogative.....	3.8
Complex-imperative.....	1.1
Complex-exclamatory.....	1.5

Of the complex sentences, about one-fifth contain only a single adverbial clause, and the same proportion a single adjective clause, while 16.9 per cent contain a single noun clause. Referring these ratios back to their proportion of the whole number of sentences, we find about one sentence of every eleven a complex sentence with a single adverbial clause; about the same ratio for complex sentences with a single adjective clause; and one of every twelve sentences is complex with a single noun clause. Over one-third of the complex sentences have secondary dependent clauses.

The most striking fact about development in the use of complex sentences is seen in this complex-complex type. Here we find a variation from 5.7 per cent for fourth-grade pupils up to 44.1 per cent for the university upper-class students, with the adult average of 37.0 practically reached at the close of the high-school period. Table 3 shows in detail this progression at different school levels.

A glance at Table 3 shows that the progression is practically continuous, with the single exception of the slight excess in the seventh-grade material.

The value of this sort of analysis will be brought out more clearly still when we discuss, in the next chapter, developmental changes in the kinds of dependent clauses used.

TABLE 3.—COMPLEX-COMPLEX SENTENCES IN SCHOOL MATERIAL

Kind of material	Per cent	Excess or deficiency on basis of adult average
Adult average.....	37.0	
University		
Upper class.....	44.1	+ 7.1
Freshmen.....	41.3	+ 4.3
High school		
Seniors.....	35.2	- 1.8
Juniors.....	30.6	- 6.4
Sophomores.....	30.8	- 6.2
Freshmen.....	29.0	- 8.0
Grades		
Eighth.....	20.4	-16.6
Seventh.....	24.3	-12.7
Sixth.....	12.8	-24.2
Fourth.....	5.7	-31.3

What Shall We Teach about Sentence Forms?—From the facts that have been presented concerning the development of sentence mastery, it is apparent that certain refinements on sentence form which are sometimes made in the grammar course, such as the complex-interrogative, complex-imperative, complex-exclamatory, and the compound-complex sentence as distinguished from the complex-compound or the complex-complex may well be omitted on the basis of their infrequency. None of these types appears in more than 4 per cent of the total number of complex sentences. When we consider the “tabular coefficient”¹ of 44.8 for the complex

¹ The term “tabular coefficient,” which is used in a number of places further along, may be explained in this connection. In interpreting several of the tables it appears advisable to make special comparisons by

sentences in the total, the most numerous of these forms occurs only about once in every fifty sentences.

The distinction between simple, compound, and complex sentences is more or less fundamental. So much in the matter of clauses hinges on the understanding of the distinction between complex sentences and the other two types. Violations of sentence completeness often hinge on the lack of clear understanding of the principal and dependent clause distinctions. Important rules of punctuation hinge on both the compound and complex sentence structure. Refinements of classification, such as compound-complex and complex-compound are unwarranted on the basis of usage.

The emphasis on the distinctions according to meaning,—the declarative, interrogative, imperative, and exclamatory forms,—seems far less important than distinction according to form. On the basis of usage the distinction according to meaning warrants no emphasis. The chances for error in punctuation of the interrogative and exclamatory sentences are so rare that this principle of variation can give very little claim for endless exercises in parsing. If emphasis is to be defended, it must be on other grounds.

Methods of Teaching Sentences.—The data presented in this chapter warrant the conclusion that the pupil must gain a clear understanding of the difference between the three kinds of sentences as to form,—simple, compound, and complex. But so far as meaning is concerned, the study of these forms may be almost entirely limited to declarative sentences.

The simple sentence being fundamental to the other forms, must be mastered thoroughly at the beginning, including a

referring the totals in a sub-group back to the total number of words or the total number of sentences, especially the latter. This has been done largely to furnish a complete list of frequencies for such summaries as the above. A concrete illustration of the use of these tabular coefficients may be introduced here to show their significance in establishing general standards of frequencies for the subdivisions in the table. The method works out as follows: Of all simple sentences, 92.2 per cent are declarative. Of the total number of sentences 41.4 per cent are simple, which shows that 38.2 per cent of all sentences are simple declarative, obtained by multiplying 92.2 per cent by 41.4 per cent.

working understanding of the ideas of the subject and predicate.

In respect to compound sentences, we have first the problem of overcoming the tendency of pupils to string two or more simple sentences into one. Our study seems to indicate that this type of sentence should be reduced from 63.6 per cent of the total number of compound sentences to approximately one-half that ratio.

So far as the compound sentence is concerned, then, this will involve added mastery of the compound-complex sentences, for we find that adults average 62.1 per cent of the compound sentences with dependent clauses. Practically all through the grades and high school, student usage falls short of this adult average, while university freshmen and upper-classmen exceed the average. This second phase of the compound sentence problem will no doubt be solved in large part if we employ the proper kind of methods for increasing the student's ability to use complex sentences.

Our analysis seems to show that there is need for developing in the upper grades a larger use of the complex sentence containing a single noun clause and also the complex-complex sentence, if students of the upper grades and high school are to reach the adult standard. The proportions of complex sentences with single adverbial or single adjectival clauses in student writing compare with adult averages in such a way as to show excess percentages for both of these forms throughout the twelve years of school life above the fourth grade.

The problem of teaching, then, consists largely in giving pupils practice in the use and control of the complex sentence. Certain types of complex sentences may as well be disregarded, notably those that are interrogative, imperative, and exclamatory in meaning. The greatest progress can be made with sentences containing a single dependent clause, and our problem is then shifted to a definite study of the kinds of dependent clauses,—adjective, substantive, or adverbial—that seem to be most used and most useful in every-day life. The discussion of this problem is the principal task of the next chapter.

One point may be stressed here,—or: merely learning the facts about the classification of sentences, and acquiring the ability to apply this knowledge in the ready analysis and parsing of sentences has been tried, and must be admitted to have failed.

Another method, the mastery by composition, is now being generally emphasized and must be given a fair trial. Devices in teaching must be worked out to induce the pupil to write and speak thoughts expressed in correct, varied, and versatile sentence form. Two general lines of attack seem possible,—either to lead the pupil to think so as to compel such expression, or to require him to re-think and re-express thoughts presented to him in a form that shall be suitable for restatement involving practice in the forms desired.

Such exercises will usually take on one of two forms,—restatement of condensed material in amplified form, or restatement of amplified material in condensed form. We should make use of exercises involving the restatement of words in natural, equivalent phrases; of the restatement of phrases in clauses; of the recasting of simple sentences into compound and complex, and vice versa; and of the recasting of complex sentences of one type into those of another.

The possibilities of this method of teaching a mastery of sentence form for the sake of variety, clearness, precision, and force—the old “rhetorical” way of putting it—will be elaborated more fully in the following chapter, when we shall see what common usage indicates as to the forms of clauses and phrases that are probably a necessary means of daily expression.

Examine Diagram III again, with this matter in mind. It may be seen that in the fourth and sixth grades we have the adult ratio of compound sentences with two or more simple clauses and of the compound sentences with complex clauses practically reversed. It would seem to be feasible in the language work in these grades to give the pupils extensive practice in converting some of their parallel independent clauses into equivalent dependent clauses. The new form in most cases will afford a more natural and precise expression of the intended meaning. The adult average compels such a con-

clusion. Material for such exercises need not necessarily be sought in formal texts. A judicious selection from the written work of a class ought to give ideal opportunities for leading pupils into more accurate ways of thinking, in the revision of their first-thought expression.

CHAPTER III

DEVELOPMENT IN CLAUSE CONTROL

Problems in the Teaching of Clauses.—Our study of the sentence in the previous chapter led to the conclusion that the practical solution of the sentence problem in language mastery involves, mainly, constructive work with the dependent clause. The pupil must learn to use the various types of clauses in order to gain accuracy and variety in expression.

In approaching the problem of the importance of clauses in our grammar and language work, we may set this functional aim in direct contrast with present practice. We may, at the outset, state some of the present problems relating to clauses, with the intention of seeing what light we may gain from the data we shall examine in this study.

1. It will be useful to determine whether the time spent in grammar classes on the classification of adverbial clauses according to their use, and on noun clauses according to their construction, is worth while.

2. How important is it for pupils to learn the difference between restrictive and non-restrictive adjective clauses?

3. How may we improve the pupil's ability in sentence construction through his study of clauses?

Before proceeding to analyze our data, it should be noted that in dealing here with the usage of clauses we are not dealing with the figures involved in the discussion of dependent clauses in the previous chapter. There we were concerned with the sentence as a whole, and all dependent clauses that were secondary or even further removed from the principal clauses were not considered. Our analysis now involves *all* dependent clauses regardless of the kind of sentence in which they may be found, and regardless also of the extent to which they may be removed from the principal or independent elements of the sentence.

The Ratio of Clauses per Sentence.—We should first note the ratio of dependent clauses to the number of sentences for all material. In 10,000 sentences there were 9,184 dependent clauses, an average of nearly one to a sentence, or .92. The adult average is slightly larger, .97. This is the standard used in the tables and diagrams in this chapter.

Some extremes in the use of clauses may first be noted. The largest ratio of clauses to the number of sentences is found in the material from Stevenson, who uses 716 in 500 sentences, a ratio of 1.43 per sentence. Brisbane's ratio is .76; William Hard's is .44; Macaulay's is 1.04. These extremes and the ratio of some of the other important groups of material may be seen by a glance at Table 4.

TABLE 4.—SHOWING DEVIATION FROM ADULT AVERAGE IN RATIO OF DEPENDENT CLAUSES PER 100 SENTENCES FOR TYPICAL ADULT WRITING

Material	Ratio per 100 sentences	Excess or deficiency on basis of adult average
Adult average.....	97	
Stevenson.....	143	+46
R. H. Little.....	112	+15
Macaulay.....	104	+ 7
Oppenheim conversation.....	101	+ 4
Wright narrative.....	94	- 3
Business letters.....	88	- 9
Women's letters.....	87	-10
Wright conversation.....	87	-10
Local news.....	85	-12
Brisbane.....	76	-21
Wm. Hard.....	44	-53

Table 4 means:—Stevenson uses, on the average, 143 dependent clauses per 100 sentences, exceeding the adult average of 97 by 46. At the other extreme, William Hard uses 44 dependent clauses per 100 sentences, an average less than the adult average by 53 points on the same scale.

We may now compare with this adult average and with those extremes in the matter of clause usage, the material collected from school work. The data are given in Table 5.

When we come to analyze the kinds of dependent clauses found in the school material, we note, first, a gradually increasing number of such clauses in proportion to the number of sentences, as we proceed from the lower to the higher grades. Table 5 shows approximately one dependent clause to every fourth sentence used by fourth-grade pupils, one to every third sentence used by sixth-grade pupils, approximately one to each sentence used by university freshmen, and four to every three sentences used by university upper-classmen.

TABLE 5.—RATIO OF DEPENDENT CLAUSES TO THE NUMBER OF SENTENCES IN SCHOOL COMPOSITIONS

Kind of material	Ratio per 100 sentences	Excess or deficiency on basis of adult average
Adult average.....	97	
University		
Upper class.....	132	+35
Freshmen.....	106	+ 9
High school		
Seniors.....	83	-14
Juniors.....	83	-14
Sophomores.....	71	-26
Freshmen.....	79	-18
Grades		
Eighth.....	59	-38
Seventh.....	47	-50
Sixth.....	34	-63
Fourth.....	24	-73

The relative deficiency or excess in this ratio of clauses, when compared with the adult standard, can also be seen at a glance in Table 5.¹

¹ It must not be overlooked that there is a slight fallacy involved in all of the development charts on account of the fact that the university

Comparing Tables 4 and 5, we find that William Hard has simplified his average sentence structure to about the same as that found in the fourth or sixth grade. Most of the newspaper material, the business letters of men, the letters of women, and the "light" fiction has about the same type of sentence, so far as the ratio of dependent clauses is concerned, as the composition work of high-school students. The sentence structure of university freshmen is about as complex as that of Macaulay, and the work of university upper-class students approaches the ratio of Stevenson.

The Distribution of Dependent Clauses.—Regarding the distribution of the total number of clauses among the three types,—adverbial, adjectival, and substantitive,¹—Diagram IV indicates that each of these types constitutes approximately one-third of the total. To be exact, the adverbial clauses constitute 38.2 per cent of the total, the noun clauses 30.1 per cent, and the adjectival clauses 31.7 per cent. This distribution was slightly changed in the items constituting the adult average, the percentages being, respectively, 36.7, 31.2, and 32.1. In the printed material there was a considerable shift in the substantive total, which is 35.7. In this group the adverbial clauses constituted 33.8 and the adjectival clauses 30.5 per cent of the total number. This is accounted for by the fact that a large proportion of the newspaper material is included in the print composite and, because of the reduction in the total number of sentences involved, the characteristic

upper-class material was included in the totals used to compute the "Adult Average," and, as this involved about one-eighth of the total amount of adult material, the tendency for the university material to approximate the average used as a standard will be beneficially affected in a slight degree. This will not, however, affect the comparison of the other school material with the adult average.

¹(a) *Adverbial Clause.*—The bird was singing *when we passed*.

(b) *Adjectival Clause.*—The bird *which we heard singing* was an oriole.

(c) *Substantive Clause.*—He did not believe *that the world was round*.

The various types of adverbial and adjective clauses, and the various construction for substantive clauses will be illustrated in detail in subsequent sections of this chapter.

newspaper construction of a noun clause used as the object of verbs of *saying*, and the like, was given undue weight.

The averages that we thus derive as to the relative frequency of the three types of clauses indicate that, other things being equal, the adverbial, adjectival, and substantive clauses should claim about equal attention in a course in grammar.

I. IN ALL MATERIAL.

Adverbial Clauses 38.2 %	Noun Clauses 30.1 %	Adjective Clauses 31.7 %
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II. IN ADULT MATERIAL.

Adverbial Clauses 36.7 %	Noun Clauses 31.2 %	Adjective Clauses 32.1 %
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III. IN PRINT COMPOSITE.

Adverbial Clauses 33.8 %	Noun Clauses 35.7 %	Adjective Clauses 30.5 %
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DIAGRAM IV.—The relative proportion of dependent clauses, as adverbial, substantive, or adjectival, in various groups of material.

From Table 6 we gain some indication as to the extreme variation, in the use of clauses among writers or types of material on the basis of adult averages. The table presents the excesses over the adult average and the deficiencies in the relative proportion of adverbial, substantive, and adjectival clauses. The greatest extremes were selected for these diagrams, as well as a number of items more closely resembling the average. If we eliminate from each column the same three items,—the two conversational sections from the fiction material, and the Associated Press material,—we find the adult material grouped quite closely about the average. Then if we consider the variation of these three classes of material,

we see at once that it is the large excess of noun clauses that accounts for the extremes in all three of the clause types, for the excess in one is accompanied by a corresponding deficiency in the other two. Later, in examining the noun clauses in these three groups of material, we shall find that these extremes are largely due to the frequent use of noun clauses as objects of a verb. (See Table 11.)

TABLE 6.—THE RELATIVE PERCENTAGES OF ADVERBIAL, ADJECTIVE, AND NOUN CLAUSES FOUND IN VARIOUS TYPES OF ADULT WRITING

Material	Percentage of all clauses			Excess or deficiency on basis of adult average		
	Adverbial	Adjective	Noun	Adverbial	Adjective	Noun
Adult average.....	36.7	32.1	31.2			
William Hard.....	47.4	32.0	20.6	+10.7	— .1	—10.6
Stevenson.....	47.3	32.0	20.7	+10.6	— .1	—10.5
Brisbane.....	42.6	24.0	33.5	+ 5.9	— 8.1	+ 2.3
Women's letters.....	42.3	24.7	33.0	+ 5.6	— 7.4	+ 1.8
Wright narrative....	40.2	46.6	13.2	+ 3.5	+14.5	—18.0
Business letters.....	37.2	32.5	30.4	+ .5	+ .4	— .8
Herald editorials....	32.8	33.6	33.6	— 3.9	+ 1.5	+ 2.4
Local news.....	30.1	28.4	41.6	— 6.6	— 3.7	+10.4
Macaulay.....	28.9	43.4	27.6	— 7.8	+11.3	— 3.6
Wright conversation.	25.3	19.3	55.5	—11.4	—12.8	+24.3
Oppenheim conversation.....	24.9	16.5	58.6	—11.8	—15.6	+27.4
Associated Press....	23.5	22.4	54.1	—13.2	— 9.7	+22.9

The conversational sections of Wright and Oppenheim, in respect to the prominence of noun clauses, are almost double the adult average. This is explained as being due to the introductory statements accompanying the speeches of characters in the story. Similar excesses over the average have already been referred to in connection with the Associated Press material as being due to the newspaperman's tendency to guard all statements by quoting authority. In the Wright

conversational material this type of noun clause constitutes 90.1 per cent of all noun clauses; in the Oppenheim conversational sections, 86.7 per cent; and in the Associated Press material, 76.4 per cent. (See Table 11.) If we refer these percentages back to the total number of clauses, we find this single type of noun clause in the construction of object of a verb constitutes respectively 28.1, 27.1, 27.8 per cent of all dependent clauses in these three groups of material.

When we distribute the dependent clauses found in school work of the different grades into the three groups of adverbial, noun, and adjective clauses, we get a striking revelation of the development of these phases of linguistic expression among pupils at different levels.

Data presented in Table 7 show trends of development so decided that they should influence our distribution of language work in the schools, and should help us in the selection and grading of material in the grammar course.

Table 7 shows that the percentage of noun clauses in the total number of clauses increases from approximately 10 per cent to 31 per cent, practically the adult average, from the sixth grade to the close of the high school and then recedes to about 21 per cent in the work of the university upper classmen.

The adverbial clauses show a decrease, in a general way, from about 51 per cent in the sixth grade to 42 per cent in the university upper classes. In the use of the adjective clauses, in general, the frequency runs from about 25 per cent in the seventh grade to 36 per cent in the university upper classes. The figures for the fourth grade are an exception to the general trend in respect to noun and adjective clauses, possibly because of the limited amount of material examined for this grade. In the case of the adjective clauses, the figures for the sixth grade also show an exception to the general trend, for we find that the percentage of adjective clauses is 39.2 of the total number of dependent clauses.

Just as we noted in the discussion of complex sentences with single adverbial clauses that there was a decline from a considerable excess over the total average in the grades to an approximation to the average in the university material, so

we find the same tendency when the total number of clauses is considered. Diagram V shows the clause trends in relation to one another. It may be noted as quite a marked feature in the use of noun clauses that there is a rapid increase from about 10 per cent in the sixth grade to a little over the adult

TABLE 7.—SHOWING THE DEVELOPMENT IN THE USE OF NOUN, ADJECTIVE, AND ADVERBIAL CLAUSES FOR VARIOUS SCHOOL LEVELS

School levels	Per cent of all clauses			Excess or deficiency on basis of adult average		
	Noun	Adjective	Adverb	Noun	Adjective	Adverb
Adult average	31.2	32.1	36.7			
University						
Upper class.....	21.2	36.2	42.6	-10.0	+ 4.1	+ 5.9
Freshmen.....	19.6	34.3	46.1	-11.6	+ 2.2	+ 9.4
High school						
Seniors.....	31.0	26.6	43.5	- .2	- 5.5	+ 6.8
Juniors.....	32.2	33.7	34.2	+ 1.0	+ 1.6	- 2.5
Sophomores.....	24.9	31.7	43.6	- 6.3	- .4	+ 6.9
Freshmen.....	27.0	27.0	46.2	- 4.2	- 5.1	+ 9.5
Grades						
Eighth.....	33.1	24.3	42.6	+ 1.9	- 7.8	+ 5.9
Seventh.....	18.0	25.7	56.5	-13.2	- 6.4	+19.8
Sixth.....	9.6	39.2	51.1	-21.6	+ 7.1	+14.4
Fourth.....	38.9	22.1	38.9	+ 7.7	-10.0	+ 2.2

average of 30 per cent by the end of the high school, with a recession to about two-thirds of the adult average in the university material. In the adjective clauses we find a more pronounced general tendency to increase from 22.1 per cent in the fourth grade to 36.2 per cent in the university upper classes, with the average at 32.1. However, the sixth grade material presents an exception to the general trend. These developments in the use of the three types of clauses are shown in relation in Diagram V, together with the development

in the ratio of clauses to sentences, with each of these trends compared with the adult average.

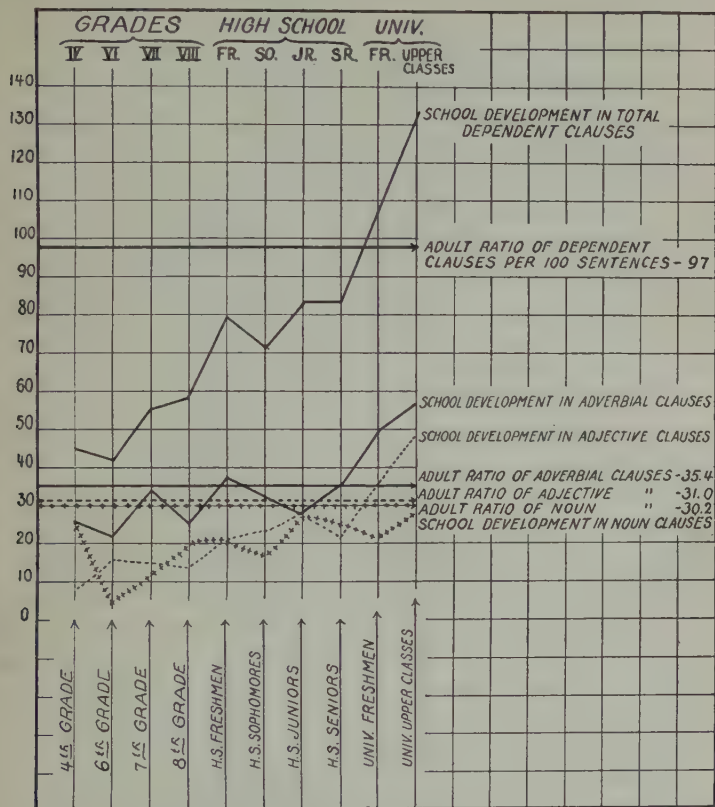


DIAGRAM V.—Showing development in school material compared with adult averages in ratio of total number of dependent clauses, and of adverbial, substantive, and adjective clauses per 100 sentences.

Kinds of Adverbial Clauses.—One of the most striking features of the investigation is presented in the results relating to the kinds of adverbial clauses most frequently used.¹ Arranged in order of their frequencies with their

¹ Illustrations of various kinds of adverbial clauses:

(a) *Time*.—The bird was singing *when we passed*.

(b) *Degree*.—He sang louder *than any oriole I had ever heard*.

respective percentages, the list for all the material examined is shown in Table 8.

We might have expected a larger percentage for clauses of place; but, of course, most of the dependent clauses expressing the idea of place are adjectival in character.

We may refer these types of adverbial clauses back to the total number of dependent clauses by use of the coefficient

TABLE 8.—SHOWING PERCENTAGE OF DIFFERENT KINDS OF ADVERBIAL CLAUSES IN TOTAL NUMBER OF DEPENDENT CLAUSES, AND THE RATIO PER ONE HUNDRED SENTENCES

Kind of adverbial clauses	Percentage of all adverbial clauses	Percentage of all dependent clauses	Ratio per 100 sentences
Time.....	30.8	11.8	10.8
Degree.....	21.4	8.2	7.5
Condition.....	18.3	7.0	6.4
Cause.....	11.2	4.3	3.9
Manner.....	6.7	2.6	2.4
Concession.....	4.4	1.7	1.5
Result.....	4.2	1.6	1.5
Place.....	1.4	.5	.5
Purpose.....	1.1	.4	.4
Evidence.....	.5	.2	.2

38.2, and we may also compare the different kinds of adverbial clauses by giving their ratio per 100 sentences. These two sets of facts may also be seen in Table 8.

- (c) *Condition*.—You may have the book if you will return it in a week.
 (d) *Cause*.—He was angry because he could not go.
 (e) *Manner*.—When in Rome do as the Romans do.
 (f) *Concession*.—He was greatly pleased, although he gave no sign of it.
 (g) *Result*.—He was so pleased that he started to tell the first man he met of his good fortune.
 (h) *Place*.—We found him sitting where we had left him.
 (i) *Purpose*.—He turned his face that we might not see his emotion.
 (j) *Evidence*.—We were sure someone was near, for we heard a splash of oars below the cliff.

When we consider that none of these types occurs more frequently than once in ten sentences, and that most of them occur only once or twice in a hundred sentences, the energy often spent in schools in making logical distinctions for the sake of being able to parse adverbial clauses seems wastefully expended. Further, these distinctions are of little value in helping pupils to overcome the common errors in speech. Where the logical value of a clause may determine the mode of a verb in a highly inflected language, such as Latin or Greek, this refinement may be valid; but there seems little justification for introducing such treatment into an English grammar course. All exercises and explanations involved in the classification of adverbial clauses should be abandoned.

It may prove interesting to compare the order of frequencies for different types of adverbial clauses from the developmental point of view. In three of the groups we find pupils in the grades exceeding the average, viz., in "time," "cause," and "result" clauses. In clauses of "manner," "place," "degree," "condition," and "concession," the grade pupils fall below the average. In a general way, in the "time" clauses, we find a constant decline from a large excess percentage over the average in the grades to about the adult average in the university. (See Table 9.) In "manner" we find (See Table 10.) an approximately similar increase to the average with a striking exception, however, in the sixth grade. In "degree" (See Table 9.) we again note decided evidence of development from 4.4 to percentages slightly above the adult average of 22.8 in university material. In "causal" clauses, (See Table 10.) all of the school material shows a rather striking uniformity of excess throughout, with a gradual increase in the grades and high school, and a recession in the university material. In the "result" clauses (See Table 10.) the development seems to be in the direction of eliminating them from the excess in the upper grades to a point about the adult average in the upper high-school and university years. The students' control of the "conditional" clause (See Table 9.) shows a slight development during the grades, from zero in the sixth,

through the high-school period and recession toward the average in the university classes. As a striking contradiction to this, however, is the fourth grade material, which exceeds the average.

The more important developmental trends are shown in detail for some of the classes of adverbial clauses in Tables 9 and 10. There were too few "place," "purpose," and "evidence" clauses to indicate trends.

TABLE 9.—DEVELOPMENT IN THE USE OF TIME, DEGREE, AND CONDITIONAL CLAUSES IN SCHOOL MATERIAL

School levels	Per cent of adverbial clauses			Excess or deficiency as compared with adult average		
	Time	Degree	Condition	Time	Degree	Condition
Adult average	29.6	22.8	20.6			
University						
Upper class.....	33.2	24.6	18.5	+ 3.6	+ 1.8	- 2.1
Freshmen.....	29.1	25.4	12.8	- .5	+ 2.6	- 7.8
High school						
Seniors.....	28.9	14.5	25.6	- .7	- 8.3	+ 5.0
Juniors.....	33.9	18.4	11.2	+ 4.3	- 4.4	- 9.4
Sophomores.....	29.9	14.2	19.4	+ .3	- 8.6	- 1.2
Freshmen.....	19.8	15.4	18.7	- 9.8	- 7.4	- 1.9
Grades						
Eighth.....	50.7	12.6	4.7	+21.1	-10.2	-15.9
Seventh.....	65.1	1.6	1.6	+35.5	-21.2	-19.0
Sixth.....	44.1	9.4	.0	+14.5	-13.4	-20.6
Fourth.....	52.1	4.4	26.0	+22.5	-18.4	+ 5.4

The conclusion to be derived from this analysis indicates that on the basis of natural usage, adverbial clauses of "time," "degree," "condition," "cause," and "manner" should receive attention in the grades; and clauses of "concession," "place," and "purpose" in the high school; and that on the

basis of frequency of usage, evidence clauses are a useless refinement in classification.

TABLE 10.—DEVELOPMENT IN THE USE OF CAUSAL, MANNER, CONCESSION, AND RESULT CLAUSES IN SCHOOL MATERIAL

School levels	Per cent of adverbial clauses				Excess or deficiency as compared with adult average			
	Cause	Man- ner	Con- cession	Result	Cause	Man- ner	Con- cession	Result
Adult average....	10.0	7.2	4.4	3.7				
University								
Upper class....	12.3	3.5	3.7	3.0	+2.3	-3.7	- .7	- .7
Freshmen.....	12.8	4.9	8.6	4.9	+2.8	-2.3	+4.2	+ 1.2
High school								
Seniors.....	17.8	5.6	4.4	1.2	+7.8	-1.6	.0	- 2.5
Juniors.....	17.0	5.7	1.5	2.9	+7.0	-1.5	-2.9	- .8
Sophomores....	19.4	5.1	2.5	5.1	+9.4	-2.1	-1.9	+ 1.4
Freshmen.....	19.8	6.5	2.1	7.6	+9.8	- .7	-2.3	+ 3.9
Grades								
Eighth.....	12.6	1.5	1.5	15.8	+2.6	-5.7	-2.9	+12.1
Seventh.....	15.1	1.6	.0	10.7	+5.1	-5.6	-4.4	+ 7.0
Sixth.....	11.7	16.2	2.4	6.9	+1.7	+9.0	-2.0	+ 3.2
Fourth.....	13.1	.0	.0	.0	+3.1	-7.2	-4.4	- 3.7

Noun Clauses.—In the substantive or noun clauses¹ the majority are in the construction of “object of a verb,”—73.0 per cent. Those in apposition with a pronoun, i.e. the impersonal “it,” come next, with 9.4 per cent; those in

¹ Illustrations of substantive or noun clauses in various constructions.

(a) *Subject.*—*That the earth is round* is believed by astronomers.

(b) *Predicate Attribute.*—The trouble is *that the child cannot see well.*

(c) *Object of Verb.*—We knew *that we could not clamber down the cliff.*

(d) *Object of a Preposition.*—Much depends on *how you meet the emergency.*

(e) *Appositive with a Noun.*—The fact *that he was easily influenced* counted most against him.

(f) *Appositive with a Pronoun.*—It is evident *that the sum of the angles of any triangle equal 180 degrees.*

(g) *Retained Object in Passive Voice.*—It has been proven by astronomers *that the earth is round.*

(h) *Secondary Object.*—We asked him *how we could climb down the cliff.*

apposition with a noun are next,—8.8 per cent. Noun clauses as predicate attributes constitute 5.1 per cent of the noun clauses, and those in the subject construction, 1.6 per cent of the total. The percentages for other possible constructions are negligible. These facts may be seen by reference to Table 11.

TABLE 11.—RELATIVE FREQUENCY OF VARIOUS CONSTRUCTIONS OF NOUN CLAUSES

Uses of noun clauses	Per cent of all noun clauses
Subject.....	1.6
Predicate attribute.....	5.1
Object of verb.....	73.0
Object of preposition.....	1.4
Appositive with noun.....	8.8
Appositive with pronoun.....	9.4
Retained object in passive voice.....	.5
Secondary object.....	.2

Referring some of these kinds of noun clauses back to their frequency in the total number of clauses, by multiplication with the tabular coefficient of 30.0, the percentage of noun clauses in the total, we find noun clauses as objects of a verb in 19.8 per cent of all sentences,—practically every fifth sentence. In the same way we estimate a noun clause in apposition with a pronoun as constituting 2.8 per cent of all clauses, and as occurring in 2.5 per cent of all sentences,—every fortieth sentence. The construction in apposition with a noun constitutes 2.7 per cent of all clauses and occurs in 2.4 per cent of all sentences. The predicate attribute construction is found in 1.5 per cent of all clauses and 1.4 per cent of all sentences.

All of these clause types are more or less important from the point of view of presenting two possible chances for error. It is not an uncommon mistake to find the introductory

word "that" repeated in connection with such clauses, especially when another clause, usually out of its natural order, is introduced as a modifier of some element in the noun clause.¹ There is also quite a common and natural tendency to commit error by the use of unnecessary commas before introductory words, especially where the clause is in apposition with a noun.²

TABLE 12.—DEVELOPMENT IN USE OF NOUN CLAUSE AS OBJECT OF A VERB AND IN APPPOSITION WITH A NOUN

School levels	Per cent of noun clauses		Excess of deficiency as compared with adult average	
	Object of a verb	Apposition with a noun	Object of a verb	Apposition with a noun
Adult average.....	74.5	9.1		
University				
Upper class.....	76.1	5.7	+ 1.6	-3.4
Freshmen.....	69.3	6.8	- 5.2	-2.3
High school				
Seniors.....	45.1	17.8	-29.4	+8.7
Juniors.....	59.8	12.0	-14.7	+2.9
Sophomores.....	74.9	6.9	+ .4	-2.2
Freshmen.....	69.8	.0	- 4.7	-9.1
Grades				
Eighth.....	83.7	2.0	+ 9.2	-7.1
Seventh.....	100.0	.0	+25.5	-9.1
Sixth.....	100.0	.0	+25.5	-9.1
Fourth.....	95.8	.0	+21.3	-9.1

The earliest, easiest, and most spontaneous form of noun clause from the developmental point of view seems to be

¹ Example.—He said that, while he had often thought of going to Europe, *that* he had never been able to leave his business. (The mistake is usually accompanied by omission of the punctuation.)

² Example.—The fact, that he had never been to Europe, frequently disturbed him.

in the construction of the object of a verb. In the sixth and seventh grades all noun clauses are in this construction, but the proportion from that point on diminishes rapidly to 45.1 per cent for high-school seniors, but increases again in the work of university freshmen and upper classmen to 69.3 and 76.1 respectively. This carries it back to practically the adult average of 74.5 per cent. The development is shown in Table 12.

TABLE 13.—DEVELOPMENT IN THE USE OF NOUN CLAUSES IN APPPOSITION WITH PRONOUNS, AS PREDICATE ATTRIBUTE, AND AS SUBJECT

School levels	Per cent of noun clauses			Excess or deficiency as compared with adult average		
	Apposition with pronouns	Predicate attribute	Subject	Apposition with pronouns	Predicate attribute	Subject
Adult average.....	9.4	4.2	1.7			
University						
Upper class.....	9.6	5.7	1.1	+ .2	+ 1.5	— .6
Freshmen.....	5.8	15.4	1.9	— 3.6	+11.2	+ .2
High school						
Seniors.....	24.1	13.0	.0	+14.7	+ 8.8	—1.7
Juniors.....	16.5	4.6	4.6	+ 7.1	+ .4	+2.9
Sophomores	13.7	4.6	.0	+ 4.3	+ .4	—1.7
Freshmen.....	16.9	9.5	.0	+ 7.5	+ 5.3	—1.7
Grades						
Eighth.....	.0	14.2	.0	— 9.4	+10.0	—1.7
Seventh.....	.0	.0	.0	— 9.4	— 4.2	—1.7
Sixth.....	.0	.0	.0	— 9.4	— 4.2	—1.7
Fourth.....	.0	4.4	.0	— 9.4	+ .2	—1.7

Table 13, as well as a number of the other developmental tables in this chapter, brings out the fact that in almost every case the high-school junior material is exceptional; time and again we notice an extension for this class in the direction of the general trend of development. If the trend is from an

excess to the average, the junior class material seems a year or two ahead of the trend; and the same condition frequently holds when the trend is from a deficiency in the lower grades toward the adult average in the upper levels.

Referring to Diagram V this close approximation to the adult standard by high-school juniors can be seen in an even more striking way in the usage of all types of dependent clauses.

Adjective Clauses.—When this study was planned, the adjective clauses were divided into the two groups of restrictive and non-restrictive, or determinative and descriptive,¹ because of the emphasis put upon this classification in most grammars, largely due to the fact that the distinction forms the basis of an important rule for the use of the comma which is often violated. The insistence on this rule for the sake of clearness seems warranted. But the fact brought out here, that the restrictive clauses, which do not require the comma, so largely predominate, somewhat modifies the need for this insistence. So does the fact that the purposed omission is becoming more and more common in current usage, especially in newspaper writing.

It is most significant, however, that the non-restrictive clause is so prominent proportionately in the writing of the immature. All grade and high-school material exceeds the average, the grade material being twice to three times the average in the matter of non-restrictive clauses. As will be shown later, the error quotient for the failure to set off non-restrictive clauses is high in all school material, practically one-half of the chances being missed.

Aside from the school material the non-restrictive clause seems to be prominent in narrative material, and especially in newspaper writing. (See Diagram VI.)

¹ Illustrations of the kinds of adjective clauses.

(a) *Restrictive or Determinative.*—He seized the gun *that was nearest the door.*

(b) *Non-restrictive or Descriptive.*—We heard a splash of oars below the cliff, *which overhung the bay at this point.*

Restrictive and non-restrictive adjective clauses appear in the adult material in about the ratio of 4 to 1. Because of its importance in the matter of error in punctuation, the non-restrictive clause should be related back to the total number of sentences and clauses. With about one dependent

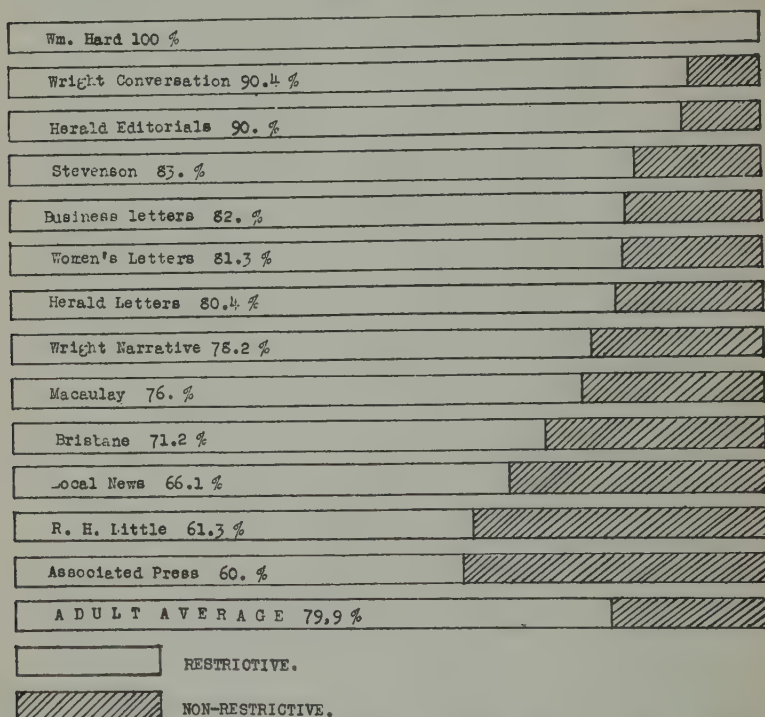


DIAGRAM VI.—Showing adult extremes in percentage of adjective clauses used that are restrictive and non-restrictive.

clause to a sentence, .9 to be exact, and 20.7 per cent of these non-restrictive, we may expect to find such a clause as should be set off by the comma in 18.6 per cent of the sentences.

A further analysis of the adjective clauses shows that there is a striking indication of development in the school material in the way of a decrease in the proportion of non-restrictive clauses used and a corresponding increase in the number

of restrictive clauses. The development is readily seen in Diagram VII.

The peculiar contradiction to the general trend in the fourth grade material must be noted. There must be more than an accidental selection involved. It seems reasonable to expect that, if the investigation were extended over all the lower grades, we might again find a regular reversal to the trend

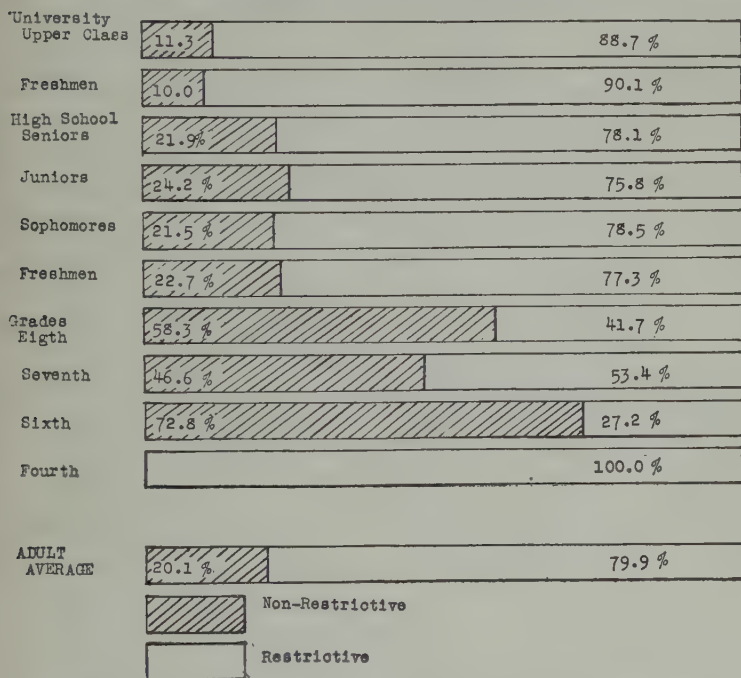


DIAGRAM VII.—Showing development in the use of non-restrictive and restrictive clauses.

from grade 6 upward. The knack of adding a thought to the main sentence idea is probably an achievement acquired by pupils at about the sixth grade. The significant fact about the matter is that there should then be such a generous use of the non-restrictive clause. It is easy to understand that this element is then employed to take up a large part of the "run on" sentence structure. The collection and analysis of further

material for the purpose will, no doubt, reveal some interesting traits in the development of sentence control. Such a study could easily be made by any English teacher in the intermediate grades and would yield helpful material for the teaching of the sentence.

Questions of Method in Teaching Clauses.—In summarizing our results on the matter of dependent clauses and making practical application of the results, we should note the following:

1. Exercises in classification for adverbial and noun clauses have no value. The time spent on such parsing should be saved for other purposes.

2. The study of discrimination between restrictive and non-restrictive adjective clauses is important.

3. Language exercises should be carefully graded with a view to teaching pupils of various grades how to build up sentences containing clauses of various types. Some of these types are clearly shown to be quite beyond the natural language habits of grade pupils, and some are beyond the natural modes of expression of high-school students.

4. Exercises in sentence-building, such as were suggested in Chapter II, i.e. in substituting clauses for words and phrases, can and should be carefully arranged on the developmental basis.

CHAPTER IV

PHRASES AND NON-MODAL VERB FORMS

Prepositional Phrases.—We now turn to consider phrases, first the prepositional forms and then those involving some non-modal verb forms used as phrase modifiers.¹

On the basis of frequency of usage, prepositional phrases are very important. They also offer an important field for investigation in the matter of errors, as we shall see in Chapter X. Even in university upper-class compositions, we find

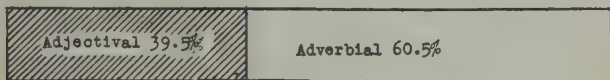


DIAGRAM VIII.—Showing proportion of adjectival and adverbial types of prepositional phrases in all material.

that the use of wrong prepositions is one of the most persistent faults. While this is not distinctively a grammatical matter, but rather one of diction habit, still it must be considered in this connection, and will be taken up later with the whole question of error.

There was a total of 23,036 prepositional phrases used in the 10,000 sentences examined. This gives a ratio of 2.3 per sentence. In respect to type, 39.5 per cent of the phrases are adjectival and 60.5 per cent are adverbial. (See Diagram VIII.) This distinction as to type has some significance in regard to the content of the grammar course, as we shall see presently.

The ratio of prepositional phrases per sentence in adult material was slightly larger than the ratio for the total

¹ Illustrations of the two kinds of prepositional phrases.

(a) *Adjectival*.—The man *on the box* wore a cap *with a visor*.

(b) *Adverbial*.—We tried to look *over the cliff*.

TABLE 14.—SHOWING SOME EXTREMES IN ADULT MATERIAL IN THE USE OF PREPOSITIONAL PHRASES, IN TERMS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Stevenson.....	3.89	+1.44
Macaulay.....	3.31	+ .86
Wright narrative.....	3.29	+ .84
Associated Press.....	3.16	+ .71
Herald letters.....	2.90	+ .45
Business letters.....	2.78	+ .33
Adult average.....	2.45	
Herald editorials.....	2.38	— .07
William Hard.....	1.84	— .61
Women's letters.....	1.69	— .76
Brisbane.....	1.37	—1.08
Wright conversation.....	.85	—1.60

TABLE 15.—SHOWING THE RELATION BETWEEN THE NUMBER OF PHRASES PER SENTENCE AND THE RELATIVE PERCENTAGES OF ADVERBIAL AND ADJECTIVAL PHRASES IN SCHOOL MATERIAL

Material	Ratio of phrases per sentence	Excess or deficiency	Per cent adjectival	Per cent adverbial
Adult average.....	2.45		40.8	59.2
University				
Upper class.....	2.38	— .07	31.1	68.9
Freshmen.....	1.93	— .52	33.3	66.7
High school				
Seniors.....	2.24	— .21	40.1	59.9
Juniors.....	2.06	— .39	39.0	60.9
Sophomores.....	1.95	— .5	41.7	58.4
Freshmen.....	1.81	— .64	37.4	62.6
Grades				
Eighth.....	1.74	— .71	25.3	74.7
Seventh.....	1.27	—1.18	18.6	81.4
Sixth.....	1.45	—1.0	24.2	75.8
Fourth.....	.85	—1.6	11.6	88.4

material, being 2.45 per sentence. Some of the extremes ought also, perhaps, to be noticed, in order to suggest a standard of comparison for the development of phrase usage in the composition work in different grades in school. This is shown in Table 14.

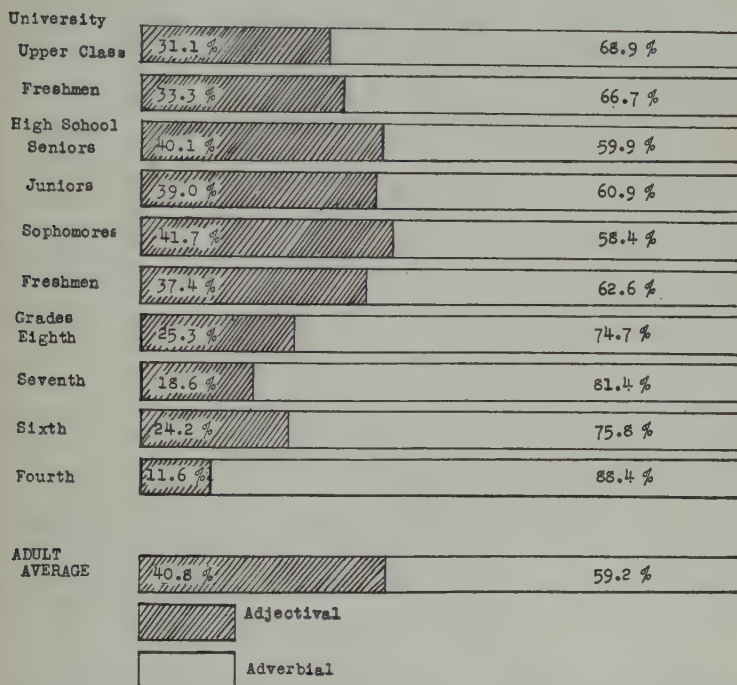


DIAGRAM IX.—Development in the use of adjectival and adverbial types of prepositional phrases.

There is a correlation of $+0.77$ between the total number of phrases used in school material and the number of adjectival phrases used.

We find, therefore, as shown clearly in a general way, in Table 15, that the development of sentence mastery with reference to kinds of phrases used is very largely a matter of increased use of adjectival phrases; that the adult averages, so far as the use of the two types of phrases is concerned, are

approximated during the last three years of high-school work; and that in the material of university students there is again a recession from the adult average. Consult also Diagram IX and Table 16.

TABLE 16.—SHOWING DEVELOPMENT IN THE SCHOOL MATERIAL IN THE RATIO OF ADJECTIVAL AND ADVERBIAL PHRASES PER 100 SENTENCES

Grade	Phrases per 100 sentences		Excess or deficiency as compared with adult average	
	Adjective	Adverbial	Adjective	Adverbial
Adult average.....	100	146		
University				
Upper class.....	74	164	-26	+18
Freshmen.....	64	129	-36	-17
High school				
Senior.....	90	134	-10	-12
Junior.....	80	125	-20	-21
Sophomore.....	81	114	-19	-32
Freshmen.....	68	113	-32	-33
Grades				
Eighth.....	44	130	-56	-16
Seventh.....	24	103	-76	-43
Sixth.....	35	110	-65	-36
Fourth.....	10	75	-90	-71

Teaching Implications.—So far as this study of the two groups of prepositional phrases should affect our plans for school work, it would seem to indicate that in the grades and early high-school period exercises might well be worked out to increase the use of the adjectival phrase modifier.

If the clear presentation of thought in sentences is set as the objective in the grammar course, it would appear that exercises should be devised which will increase facility in the use of adjectival phrases.

It would seem that exercises of this sort might be built up by giving the pupil single-word adjective modifiers to work over into adjectival phrases. Or direct exercises might be assigned which would require the pupil to add phrase modifiers to nouns and pronouns in model sentences set before them.

That this would be in the line of natural development from the kind of writing done by young persons to that done by adults in every-day life seems evident.

Correlations between Clauses and Phrases.—Correlations were worked out to show the relationship between phrases and clauses of the adjectival and adverbial type.

The correlation in all items of adult material between the ratios of adjectival phrases and adjectival clauses per sentence is $+ .66$, as roughly computed by the Spearman formula. The correlation for the items of the school material alone is $+ .69$.

The correlation in all items of adult material between the ratio of adverbial phrases and adverbial clauses per sentence is $+ .56$, as roughly computed by the Spearman formula. The correlation for the items of the school material alone is $+ .67$.

These high correlations give further confirmation of the natural developmental character of mastery over the logical relationships involved, and add to the argument made in the previous chapter that we shall soon be able to find a satisfactory objective basis for grading much of our material in the language course.

Non-modal Verb Forms.—In taking up other phrasal elements used as modifiers, the non-modal verb forms should claim our attention next.

These forms—the infinitives, participles, and gerunds¹—are all quite important so far as frequency of usage is concerned. Characteristic types of errors emphasize this importance.

¹ Illustrations of non-modal verb forms.

(a) *Infinitive.*—He refused to see his sister.

(b) *Participle.*—She sat there sewing leisurely.

(c) *Gerund.*—Seeing is believing.

This general statement of conclusions is made here because in our discussion we shall have to deal with a number of sections in the grammar courses that must be eliminated or treated with quite a different emphasis from that which is now common in school practice. Much of the material relating to these non-modal forms in the texts, except in a few of the more recent books, deals with uses of the infinitives and with the constructions of substantive infinitives. It would seem advisable, from criteria of both usage and errors, that all such material should be eliminated, while material having reference to "split infinitives," the genitive case used with the gerund, and especially the distinction of past participle and past tense forms would prove far more helpful.

The data upon which the above suggestions are based may be presented under the following heads:

1. The total number of all non-modal verb forms and their ratio per sentence.

2. The relative percentage of each of the three types and their ratio per sentence. (a) Infinitives, (b) participles, (c) gerunds.

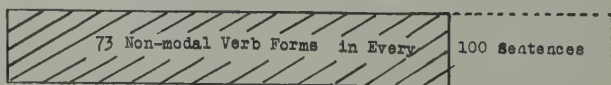
3. The relative frequency of the various uses of the infinitives, as adjective, adverb, substantive, etc., and the ratio of each per sentence.

4. The relative frequency of the different constructions of substantive infinitives and the ratio of each per sentence.

5. The relative frequency of the present and past participle forms.

6. The Gerunds.

All of the facts may first be presented in a diagrammatic way. The shaded portion in the area below may be taken to represent the ratio of all non-modal verb forms,—73 to every 100 sentences.



Retaining the same areas we may divide the shaded portion into three parts representing respectively the ratio of the

infinitives, participles, and gerunds to every 100 sentences. The percentage which each of these constitutes in the total number of non-modal verb forms is also given.

Infinitives 56.8%	Participles 27.0%	Gerunds 16.2%
42:100 sentences	20:100	12:100

We may then again subdivide the area for the infinitives into proportionate parts for the various uses of this form, as adjectival, adverbial, etc., and the area for the participles into proportionate parts for the present and past participle forms.¹ In each of the areas the ratio of the subdivision per 100 sentences is retained on the same scale.

INFINITIVES					PARTICIPLES		GERUNDS
Adjectival	Adverbial	Substantive	Complementary	Infinitive Cl.	Present	Past	
6:100	10:100	15:100	7:100	4:100	11:100	9:100	12:100

We might again subdivide the area for substantive infinitives for the various constructions,² but most of them would be too

¹ Illustrations of various uses of the infinitive.

(a) *Substantive*.—Not to go back, is somewhat to advance.

(b) *Adverbial*.—They set out to cross the border.

(c) *Complementary*.—He wished to go in my place.

(d) *Adjectival*.—The ability to read well is one of the fundamental needs in education.

(e) *Infinitive Clause*.—They requested me to come.

(f) *Independent*.—To die! How futile a sacrifice!

Illustrations of the two forms of the participle.

(a) *Present Participle*.—She left, muttering to herself.

(b) *Past Participle*.—There he was, hemmed in on all sides.

² Illustrations of substantive infinitives in various constructions.

(a) *Direct Object*.—They asked to see him.

(b) *Apposition*.—It was most difficult to descend.

(c) *Predicate Attribute*.—Not to go back, is somewhat to advance.

(d) *Subject*.—Not to go back, is somewhat to advance.

(e) *Adjunct*.—He trained them to weigh on such scales.

(f) *Secondary Object*.—They asked the women to follow them.

(g) *Object of Preposition*.—None knew him but to praise him. (*But* used in this idiom as *except*.)

(h) *Retained Object with Passive Voice*.—He was asked by the chamberlain to appear before the king at once.

inconsiderable to appear in the diagram, and the facts are, therefore, best set out in a table of ratios. The constructions appeared in the following proportions:¹

	SENTENCES
Direct object.....	65:1,000
Apposition.....	3:100
Predicate attribute.....	3:100
Subject.....	56:10,000
Adjunct.....	37:10,000
Secondary object.....	49:10,000
Object of preposition.....	33:10,000
Retained.....	23:10,000

Each of the topics dealing with non-modal verb forms may now best be presented by noting (1) the averages in all material analyzed; (2) the extremes in usage in each of the forms; (3) and the developmental trends in the school material for each of the types of constructions. We shall be especially interested in noting the details of the relative frequencies of the uses of infinitives and construction of substantive infinitives, because it is in respect to these matters that so much energy has been spent in grammars of the parsing type.

We find the total number of these non-modal verb forms—the infinitives, gerunds, and participles—occurring in the ratio of about .7 per sentence, or seven to every ten sentences. The infinitives constitute over one-half of these, —56.8 per cent; the participles, 27.0 per cent; and the gerunds, 16.2 per cent. If we use the tabular coefficient .7 for the total non-modal verb forms, we find an infinitive in about four of every ten sentences, a participle in about two of every ten sentences, and a gerund in every eighth sentence. The present and past participles are divided about equally,—54.9 and 45.1 respectively of the total number of participles. This would give about one of each of those forms for every tenth sentence.

Most grammar text-books go into a great deal of detail as to the uses of infinitives, and to their construction, if they happen to be used substantively. Of the different uses commonly distinguished, we find that 35.2 per cent of the

¹ Compare Table 17.

infinitives are substantive; 24.1 per cent, adverbial; 17.0 per cent, complementary; 13.6 per cent, adjectival; 9.7 per cent in infinitive clauses; and .2 of one per cent, independent. These percentages might be referred back to the total number of non-modal verb forms used, but it will perhaps be more to the point to show the relative frequencies of these uses for the total number of sentences. This gives us one substantive use in every seventh sentence; one adverbial in every tenth sentence; one complementary in every fourteenth sentence; one adjectival in every nineteenth sentence; one infinitive clause use in every twenty-fifth sentence; and one independent in every one-hundredth sentence. The relative importance of the different infinitive uses is shown in Table 17.

TABLE 17.—RELATIVE FREQUENCIES OF DIFFERENT USES OF THE INFINITIVES

Uses of infinitives	Per cent
Substantive.....	35.2
Adverbial.....	24.1
Complementary.....	17.0
Adjectival.....	13.6
Infinitive clauses.....	9.7
Independent.....	.2

Referring back to the diagram on page 59, it was shown that participles constituted 26.9 per cent of the total number of non-modal verb forms used as modifiers. Of these 54.9 per cent are present participles and 45.1 per cent past participles. The former occur about eleven times in 100 sentences, and the latter nine times in one hundred sentences.¹

¹ The number of participles here given does not include the present or past participle forms used as parts of a verb phrase. To secure the total number of participles a careful analysis would have to be made of the facts tabulated in connection with the verbs and verb phrases. For example, to the number of past participles would have to be added all those tense forms like the perfects, and the number of passive verbs, or verb phrases. To state the total of present participles, one would have to add the total of progressive forms.

In the same connection it was shown that 16.1 per cent of the non-modal verb forms were gerunds, and that about twelve such were found in every one hundred sentences.

Adult Extremes in Non-modal Verb Forms.—We may next note some of the adult extremes in the use of non-modal verb forms. Table 19 shows the variations for all non-modal forms taken together, and Table 20 shows the variations for infinitives, for participles, and for gerunds respectively. All of the ratios in Tables 19 and 20 may be read as "per 100 sentences" by dropping the decimal points; thus, in the business letters there are 105 non-modal verb forms in every 100 sentences, and so on.

TABLE 19.—SHOWING SOME EXTREMES IN COMPARISON WITH THE ADULT AVERAGE FOR THE RELATIVE RATIO PER SENTENCE OF NON-MODAL VERB FORMS

Material	Ratio per sentence	Excess or deficiency
Business letters.....	1.05	+ .28
R. H. Little.....	1.04	+ .27
Wright narrative.....	.96	+ .19
Stevenson.....	.89	+ .12
Women's letters.....	.86	+ .09
Associated Press.....	.84	+ .07
Local news.....	.81	+ .04
Adult average.....	.77	
Herald editorials .....	.75	— .02
Brisbane.....	.69	— .08
William Hard.....	.55	— .22
Oppenheim conversation.....	.39	— .38
Wright conversation.....	.37	— .40

Having the general facts about usage of the non-modal verb forms before us, we may now return to a further consideration of the infinitive uses and constructions, which are given so much emphasis in the grammar text-books.

Regarding the relative values of different uses of the infinitives, we may make an analysis of some of the adult averages. In the 7,718 sentences of adult material there were 3,253

TABLE 20.—SHOWING SOME EXTREMES IN COMPARISON WITH THE ADULT AVERAGE FOR THE RELATIVE RATIO OF INFINITIVES, PARTICIPLES, AND GERUNDS PER SENTENCE

Material	Ratio per sentence			Excess or deficiency on basis of adult average		
	Infinitives	Participles	Gerunds	Infinitives	Participles	Gerunds
Adult average.....	.42	.22	.11			
Women's letters.....	.59	.17	.10	+ .17	— .05	— .01
Business letters.....	.53	.33	.19	+ .11	+ .11	+ .08
Stevenson.....	.50	.25	.13	+ .08	+ .03	+ .02
R. H. Little.....	.45	.45	.14	+ .03	+ .23	+ .03
Local news.....	.39	.27	.15	— .03	+ .05	+ .04
Wright narrative....	.36	.53	.07	— .06	+ .31	— .04
Associated Press....	.36	.33	.15	— .06	+ .11	+ .04
William Hard.....	.29	.12	.14	— .13	— .10	+ .03
Wright conversation.	.27	.07	.02	— .15	— .15	— .09
Oppenheim conversation.....	.26	.11	.02	— .16	— .11	— .09

infinitives, about 42 to every 100 sentences. If we classify these 42 according to use, we find 15 are substantive; 9, adverbial; 8, complementary; 6, adjectival; and 4, infinitive clauses.

This shows what a slight basis there is in frequency of usage for the amount of space in text-books devoted to the construing of substantive infinitives. The total as well as the adult average show the ratio per 100 sentences for all substantive infinitives to be but 15. Grammar texts frequently distinguish as many as eight or nine constructions of substantive infinitives. Referring back to Table 18, we see

that three of these constructions include 86 per cent of all the substantive infinitives.¹

But the most significant fact, so far as the necessity for instruction is concerned, is that the use of these constructions does not involve a likelihood of error. It seems futile, therefore, to drill on debatable refinements that can in no way contribute to language control in school years, when even an accurate knowledge of them is of little or no advantage to the adult stylist. The complications involved in an analysis of some of these constructions may well lead one to feel that their occasional recurrence is merely the result of an unusual intricacy of thought or a remnant of idiomatic expression.

But one further item of adult usage need be noted.

The facts about the use of participles, presented in general in Table 20, show a wide range of practice. The adult average shows 22 participial modifiers to every 100 sentences. The usage of some writers nearly doubles this ratio, while with others we find half of the adult average, and in conversational material this tends to run even to less than one-third the average.

School Usage of Non-modal Forms.—We may now compare the usage in school material with these extremes and with the adult average.² This may best be done on the basis of the ratios per sentence as shown in Tables 21 to 26.

¹ Compare also page 61.

² There is an interesting confirmation in much of the material in the present study of the practise in mental test standardization of making the 16-to-18-year-old mental age equivalent to adulthood. Language control may fairly be assumed to be one of the most reliable general indications of mental ability. The present study indicates that this index of mentality is as clearly shown by mastery of sentence structure and other grammatical technique as by vocabulary control. The data presented in the diagrams warrant the statement that the "adult averages" are attained at about the age of 16 to 18, and that there is an almost invariable trend toward that average in the grades below high-school sophomores and juniors. In this connection Diagram X and Table 22 may be examined. The fact that high-school seniors and college students usually exceed the adult average in the direction of these language development trends has an important educational significance also.

Table 21 shows the development in the use of all non-modal verb forms combined, as increasing from 23 per 100 sentences

TABLE 21.—DEVELOPMENT IN THE USE OF NON-MODAL VERB FORMS ON THE BASIS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.77	
University upper class.....	.72	— .05
University freshmen.....	.76	— .01
High school seniors.....	.73	— .04
High school juniors.....	.62	— .15
High school sophomores.....	.76	— .01
High school freshmen.....	.63	— .14
Eighth grade.....	.56	— .21
Seventh grade.....	.52	— .25
Sixth grade.....	.26	— .51
Fourth grade.....	.23	— .54

TABLE 22.—DEVELOPMENT IN THE USE OF INFINITIVES ON THE BASIS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.42	
University upper class.....	.51	+ .09
University freshmen.....	.45	+ .03
High school seniors.....	.50	+ .08
High school juniors.....	.42	.00
High school sophomores.....	.53	+ .11
High school freshmen.....	.41	— .01
Eighth grade.....	.33	— .09
Seventh grade.....	.36	— .06
Sixth grade.....	.19	— .23
Fourth grade.....	.20	— .22

in the fourth grade to 76, approximately the adult standard, in the sophomore year of the high school.

Table 22 shows the development in the use of infinitives from a ratio of 19 or 20 per 100 sentences in the intermediate grades to 42, near the adult average standard, in the junior year of the high school. The high-school sophomore and senior material is irregularly in advance of the general trend.

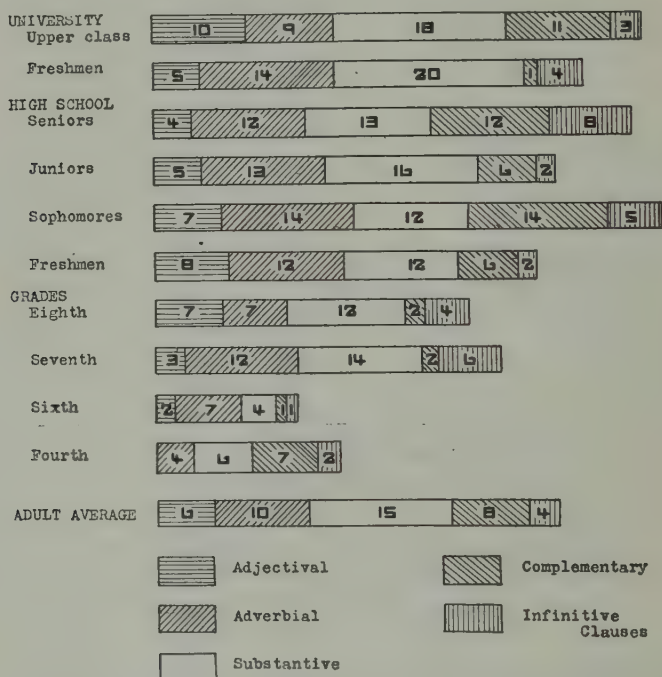


DIAGRAM X.—Showing comparisons and developments in the use of various types of infinitives, in school material. In terms of ratios per one hundred sentences.

It will perhaps be best to present the facts about the trends in regard to the different uses of the infinitive and the substantive constructions before presenting the data for participles and gerunds.

These relations are shown graphically in Diagram X. The full length of the bar presents the ratio of infinitives per one hundred sentences, and the various shadings show

comparisons and developments in the use of the various types of infinitives at different school levels.

TABLE 23.—DEVELOPMENT IN THE USE OF SUBSTANTIVE INFINITIVES ON THE BASIS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.15	
University upper class.....	.18	+.03
University freshmen.....	.20	+.05
High school seniors.....	.13	-.02
High school juniors.....	.16	+.01
High school sophomores.....	.12	-.03
High school freshmen.....	.12	-.03
Eighth grade.....	.12	-.03
Seventh grade.....	.14	-.01
Sixth grade.....	.04	-.11
Fourth grade.....	.06	-.09

TABLE 24.—DEVELOPMENT IN THE USE OF SUBSTANTIVE INFINITIVES IN THE CONSTRUCTION OF DIRECT OBJECT ON THE BASIS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.06	
University upper class.....	.10	+.04
University freshmen.....	.10	+.04
High school seniors.....	.04	-.02
High school juniors.....	.08	+.02
High school sophomores.....	.06	.00
High school freshmen.....	.06	.00
Eighth grade.....	.11	+.05
Seventh grade.....	.08	+.02
Sixth grade.....	.02	-.04
Fourth grade.....	.06	.00

A complete set of tables was worked out to show the development in school material in the use of different kinds of infinitives and in the various constructions of substantive infinitives. But only a few of these can be given.

The development in the use of substantive infinitives is shown in Table 23, and the trend in the use of substantive infinitives in the direct object construction, the most important one, is shown in Table 24.

Table 25 shows the development of the mastery of participles, which at certain levels of school work attains about two-thirds of the adult standard.

TABLE 25.—DEVELOPMENT IN THE USE OF PARTICIPLES ON THE BASIS OF RATIOS PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.22	
University upper class.....	.09	— .13
University freshmen.....	.14	— .08
High-school seniors.....	.14	— .08
High-school juniors.....	.13	— .09
High-school sophomores.....	.10	— .12
High-school freshmen.....	.13	— .09
Eighth grade.....	.16	— .06
Seventh grade.....	.08	— .14
Sixth grade.....	.08	— .14
Fourth grade.....	.01	— .21

Table 26 shows a similar but less regular development in the gerund usage.

Suggested Revision of Grammar Courses with Reference to Non-modal Verb Forms.—As a result of our study of the frequencies of usage of the various forms and constructions of the non-modal verb forms, especially the infinitive, we may now summarize some of the revisions that have been suggested incidentally in preceding paragraphs.

1. Several of the items to which considerable attention is given in the usual grammar courses occur so infrequently that the time spent on learning the logical refinements seems unnecessary. This is notably true of the most extensive and

TABLE 26.—DEVELOPMENT IN THE USE OF GERUNDS ON THE BASIS OF
RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency
Adult average.....	.12	
University upper class.....	.12	.00
University freshmen.....	.18	+.06
High-school seniors.....	.09	-.03
High-school juniors.....	.07	-.05
High-school sophomores.....	.14	+.02
High-school freshmen.....	.09	-.03
Eighth grade.....	.07	-.05
Seventh grade.....	.09	-.03
Sixth grade.....	.04	-.08
Fourth grade.....	.02	-.10

intricate of these refinements,—the uses of the infinitive, and the constructions of substantive infinitives. In short, the criterion of frequency of usage condemns the selection of material for study on the basis of logical completeness or on the analogies of classical grammar.

2. On the whole, it would be better to devise exercises to stimulate the freer use of all the non-modal verb forms as modifying elements. And this is especially necessary in the case of participles. With this suggestion in mind, Tables 21, 22, 25, and 26 should be re-examined. The best stage for work with the infinitives and gerunds would appear to be in the upper grades, a satisfactory approach to the adult average being attained in the high school. But there is reason for a strong emphasis on the use of participial modifiers, not only throughout the high school, but even in English work in the university. The value of the participle as a means of attaining clear and

concise expression is well-known. The deficiency in the use of participles throughout the school material (see Table 25) is one of the most striking evidences of our failure to attack the problem of sentence control by direct means.

3. The above criticism suggests two faults in our present grammar courses,—an over-emphasis on several topics connected with the infinitive, and a failure to give constructive exercises to stimulate easy usage of a valuable rhetorical device. A further need for reconstruction, or a transfer of emphasis, may be suggested here, but must be left for fuller development in Chapter X. Each of the non-modal verb forms presents possibilities of grammatical or rhetorical error, often of a serious character. The data concerning these errors to be presented later give an additional reason for the modification of grammar courses suggested above.

CHAPTER V

THE RELATIVE IMPORTANCE OF THE EIGHT PARTS OF SPEECH

Relative Frequency of the Different Parts of Speech.—As a basis for succeeding chapters dealing with the parts of speech, it will be of service to have before us a table showing the relative importance of the eight parts of speech. The relations are presented in terms of percentages of the totals in Table 27.

TABLE 27.—SHOWING THE RELATIVE IMPORTANCE OF THE EIGHT PARTS OF SPEECH

Parts of speech	Per cent
Nouns.....	24.2
Adjectives.....	20.9
Verbs.....	20.1
Prepositions.....	11.9
Pronouns.....	10.7
Adverbs.....	6.9
Conjunctions.....	5.2
Interjections.....	.0

Some Adult Extremes in the Use of Each Part of Speech.—We should now examine some of the extremes in the relative proportion of each of the parts of speech found in the total number of words in certain of the typical adult writings. The facts for each of the parts of speech, except interjections, which occur too infrequently to warrant attention, are presented in Table 28.

TABLE 28.—RELATIVE FREQUENCY IN THE USE OF DIFFERENT PARTS OF SPEECH IN VARIOUS TYPES OF ADULT WRITING

Kind of Material	Percentage of all words						
	Nouns	Pronouns	Verbs	Adjectives	Adverbs	Prepositions	Conjunctions
Adult average....	23.7	10.2	19.2	20.3	6.6	11.7	5.1
Macaulay.....	24.4	8.9	17.1	21.4	5.8	13.8	5.7
Stevenson.....	20.8	10.5	17.7	21.4	7.3	12.4	6.9
Wright							
Narrative.....	24.8	9.2	17.1	22.3	6.4	13.3	4.5
Conversation...	17.1	19.6	25.0	13.1	9.5	6.7	5.1
Oppenheim							
Narrative.....	22.3	6.8	35.9	17.2	5.1	8.4	3.0
Conversation...	20.4	18.9	17.3	16.9	8.1	10.1	4.4
Associated Press..	30.8	4.9	18.7	21.2	4.0	13.7	3.6
Local news.....	32.4	7.4	18.2	18.4	4.0	12.5	4.2
Herald editorials..	23.6	7.0	19.5	22.9	6.7	12.2	4.4
Brisbane.....	26.6	8.3	21.4	20.8	6.6	8.5	4.1
Herald letters....	26.3	7.6	18.1	22.3	5.2	12.5	5.0
Helen Herald.....	23.3	9.5	18.0	22.1	7.2	10.1	7.3
R. H. Little.....	28.5	8.6	17.6	19.5	6.7	10.7	5.5
Chenery.....	26.1	7.0	17.5	24.3	4.6	13.5	4.2
Lillian Russell....	21.6	10.5	20.1	19.4	7.9	9.8	6.9
William Hard....	21.3	12.6	19.0	19.4	6.5	12.7	5.5
University							
Upper class....	20.2	11.3	20.2	19.8	9.1	11.0	4.6

But little comment on the individual columns seems necessary. In respect to the nouns, the newspaper material shows a striking excess of noun usage, the extreme excess being fully one-third of the adult average. The conversational material stands at the other extreme.

Just the reverse is true in the case of pronouns, which might have been expected in view of the nature of the material.

The extremes are not so decided in the case of verbs, and there is no grouping of material to warrant generalization.

In the case of adjectives, we find three types of material at the excess extreme, the rather exuberant sociological material of Chenery, the narrative with descriptive elements, and the superior classical material. The Herald editorial material is also of the exuberant type. At the other extreme, we find the deficiency of adjectives most prominent in the conversational material.

The conversational material shows the largest excess in the proportion of adverbs used, while the newspaper material and the business letters are most lacking in adverbs.

The proportion of prepositions, which implies mastery of phrase usage, is found in excess in the better prose and in the condensed news writing.

Conjunctions are used in excess in two types of writing, the loose and the finished. We find representatives of each at the excess extreme in the table. The largest deficiency of conjunctions in comparison with the adult average is in the Associated Press material. This has already been explained as a practical device in news writing in connection with the types of sentences discussed in Chapter II. Brisbane's material, found near the extreme, may be explained as due to his free use of the short complex sentence.

Development in School Material in the Use of Each Part of Speech.—We may now note some of the developmental trends in the school material studied. Tables 29, 30, and 31 show the trends.

Speaking generally, there is an approach through the grades and the high school to the adult average in the use of nouns, with a recession in the university years. (See Table 29.)

In the matter of pronouns there seems to be a general tendency toward decrease in usage from about twice the adult average in the fourth grade to a little less than the adult average in all of the high-school material. There is a slight excess over the adult average in the university material. (See Table 29.)

TABLE 29.—SHOWING PERCENTAGES OF NOUNS AND PRONOUNS IN THE TOTAL NUMBER OF WORDS USED AT DIFFERENT SCHOOL LEVELS

School levels	Per cent of parts of speech		Excess or deficiency	
	Nouns	Pronouns	Nouns	Pronouns
Adult average.....	24.5	10.5		
University				
Upper class.....	20.9	11.7	-3.6	+1.2
Freshmen.....	20.3	14.7	-4.2	+4.2
High school				
Seniors.....	25.9	8.1	+1.4	-2.4
Juniors.....	24.4	9.0	- .1	-1.5
Sophomores.....	26.1	7.8	+1.6	-2.7
Freshmen.....	24.0	9.2	- .5	-1.3
Grades				
Eighth.....	26.0	10.6	+1.5	+ .1
Seventh.....	21.2	15.6	-3.3	+5.1
Sixth.....	24.3	11.4	- .2	+ .9
Fourth.....	20.6	20.1	-3.9	+9.6

The proportion of verbs in the total number of words is practically constant at a slight excess over the adult average throughout all of the school levels and in the university. (See Table 30).

The use of adjectives shows a gradual development through the grades until the adult average is reached, just before the high-school period. During the high-school period there is a slight excess during all the four years, but there is a return to the adult average in the university years. (See Table 30.)

The fourth, sixth, and seventh grade material shows an excess over the adult average in the use of adverbs. The high-school material throughout is practically at the adult level, while the university material shows a tendency to exceed the adult average. (See Table 30.)

TABLE 30.—SHOWING PERCENTAGES OF VERBS, ADJECTIVES, AND ADVERBS IN THE TOTAL NUMBER OF WORDS USED AT DIFFERENT SCHOOL LEVELS

School levels	Per cent of parts of speech			Excess or deficiency		
	Verbs	Ad-jec-tives	Ad-verbs	Verbs	Ad-jec-tives	Ad-verbs
Adult average.....	19.8	21.0	6.8			
University						
Upper class.....	21.0	20.6	9.5	+1.2	— .4	+2.7
Freshmen.....	20.5	20.6	7.7	+ .7	— .4	+ .9
High school						
Seniors.....	20.2	22.5	6.6	+ .4	+1.5	— .2
Juniors.....	21.8	22.2	6.0	+2.0	+1.2	— .8
Sophomores.....	22.2	21.5	6.2	+2.4	+ .5	— .6
Freshmen.....	21.7	21.7	6.9	+1.9	+ .7	+ .1
Grades						
Eighth.....	20.7	20.8	6.0	+ .9	— .2	— .8
Seventh.....	22.1	17.6	8.6	+2.3	—3.4	+1.8
Sixth.....	20.6	21.0	7.2	+ .8	0	+ .4
Fourth.....	23.2	13.9	8.0	+3.4	—7.1	+1.2

The proportion of prepositions and conjunctions is practically constant at the adult average throughout all the material. (See Table 31.)

TABLE 31.—SHOWING PERCENTAGES OF PREPOSITIONS AND CONJUNCTIONS IN THE TOTAL NUMBER OF WORDS USED AT DIFFERENT SCHOOL LEVELS

School levels	Per cent of parts of speech		Excess or deficiency	
	Preposition	Conjunction	Preposition	Conjunction
Adult average.....	12.1	5.3		
University				
Upper class.....	11.4	4.8	— .7	— .5
Freshmen.....	10.4	5.8	—1.7	+ .5
High school				
Seniors.....	11.7	4.9	— .4	— .4
Juniors.....	11.8	4.8	— .3	— .5
Sophomores.....	11.4	4.7	— .7	— .6
Freshmen.....	10.8	5.6	—1.3	+ .3
Grades				
Eighth.....	11.7	4.2	— .4	—1.1
Seventh.....	9.7	5.2	—2.4	— .1
Sixth.....	12.9	3.1	+ .8	—2.2
Fourth.....	7.8	6.5	—4.3	+1.2

Relation of Usage to the Content of the Grammar Course.—

We cannot judge on the basis of frequency of the different parts of speech alone which should receive the chief emphasis or what relative importance should be given to each in constructing a course in grammar. Complexity of form, variation in inflection, and the chances for error in each case must all be taken into consideration. The problem must be solved in view of the detailed consideration of each of the parts of speech in relation to the average sentence, and in view also of the frequency with which the complicating factors connected with each part of speech appear in usage. We shall find that some of these factors have evidently been given too much attention, while others have been slighted, in courses that have been constructed largely with a view to attaining logical completeness in detail, and to including in English grammar all those

minutiae with which grammarians are familiar in classical grammar. Exercises in courses in grammar are often artificially selected to illustrate uncommon usage, or they are laboriously culled from recondite literary storage. Such illustrative exercises have in many cases become a tradition in the text-books on the subject of English grammar.

One who is familiar with the typical text-book in grammar knows that the attention given to parts of speech has largely been determined by the number of grammatical forms and details that had to be presented in order to give a complete discussion, from a logical point of view, of each topic treated. As a result, verbs are given more space than nouns or adjectives; pronouns are given more attention than nouns, adjectives, or prepositions. A more detailed statement covering this point will be made in a later chapter when a summary will be presented of the results of a study of a number of text-books in grammar which show the absence of any satisfactory basis for determining the relative value of the minor divisions of grammar. It will also be shown that in the newer texts there is a singular tendency to modify the aim of logical completeness and balanced treatment by some consideration of frequency of error in grammatical usage.

CHAPTER VI

WHAT WE NEED TO KNOW ABOUT NOUNS AND PRONOUNS

The Present Emphasis in the Grammatical Treatment of Nouns and Pronouns.—In the conventional grammar course, nouns and pronouns are given a great deal of attention. The problem we are setting ourselves is to determine whether this emphasis is warranted on the basis of usage, or whether it is misplaced.

Two topics occupy the major part of the grammar texts and the school course in dealing with each of these two parts of speech,—viz., case constructions and classification. Adult usage, as shown in the following pages, indicates that such emphasis is not in accord with practical needs.

The discussion of case construction is undertaken for the purpose of showing that a topic in logical grammar may be important in one connection, while in another it may be of little consequence. The relative frequency of the different case constructions in nouns and also in pronouns will first be considered, and then the topics relating to the classification of each of these parts of speech will receive attention.

Case Construction of Nouns.—Strictly speaking, we cannot distinguish more than two case forms for the noun,—first, the form in nominative, dative, and accusative constructions, which in some grammars is dealt with as the “common case;” and second, the genitive or possessive case form.¹ In the following discussion, however, the theoretical division of

¹ Illustrations of nouns in the four possible case forms.

(a) *Nominative.*—The *man* found his place soon.

(b) *Genitive (or Possessive).*—The *man's* coat was torn.

(c) *Dative.*—He gave the *man* his pay.

(d) *Accusative (or Objective).*—The man found his *place* soon.

nouns in the four cases is observed, for the purpose of determining the relative frequency of each of the four forms. This is necessary in order to establish the relative importance of the one case form, the genitive, which differs from the others, in comparison with the total number of nouns. Infrequency of usage of the recently introduced dative case also shows how little practical basis there may sometimes be for the text-book maker's worship of the fetich of logical completeness.

There are a number of case constructions of nouns found so infrequently that there can be no excuse for retaining them in an elementary course in grammar even if ignorance of them involved possible error in oral or written expression. These may first be enumerated.

Let us recall, as a basis of some of our calculations, that nouns constitute about 24.2 per cent of the total number of words in common usage, and that we find four or five to every sentence.¹

Of all nouns nearly 27 per cent are theoretically in the nominative case, 71.2 per cent in the accusative, and .2 of one per cent in the dative. In other words, 98.4 per cent of all nouns are in the "common case," i.e. have the same, or unmodified form. The remainder, then, 1.6 per cent, are in the modified genitive or possessive form.

This simple presentation of the facts would suggest that the whole matter of the declension of nouns is a needless waste of time, if we have regard to frequency of use only.

Since no change of form is necessary, and no record of error is found, in connection with the infrequent dative, any need for special study of this logical construction as a distinct case may be ignored from this point on.

If it were not for the high frequency of error found in writing the genitive case, infrequency of usage would advise that but slight attention be given to this case. The prevalence of error in the use of this case suggests a more direct attack upon the causes of error than is found in the memorizing of noun declensions or the parsing of constructions. Error in usage is also frequently due to the fact that the genitive case

¹ See Chapter V, page 71 and page 72.

is so often used to express meanings other than possession, and this would indicate that an understanding of the significance of the genitive needs to be made clear. This matter is quite generally neglected in the text-books. Here again we confront a problem that cannot be solved directly by the memorizing of declensions or the parsing of constructions.

Six constructions for the nominative case of nouns are usually dealt with in the texts, (1) as subject, (2) as predicate attribute, (3) as appositive, (4) as address, (5) as exclamation, and (6) as absolute with a participle.¹ Of these the last three

TABLE 32.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CONSTRUCTIONS OF NOUNS IN THE NOMINATIVE CASE IN ALL MATERIAL

Construction	Per cent
Subject.....	75.4
Predicate attribute.....	16.0
Appositive.....	7.3
Absolute with participle.....	.2
Address.....	.7
Exclamation.....	.3

constitute together a little over 1 per cent of the nominative case constructions, and .3 of one per cent of all nouns. The total number of the three constructions found in the 10,000 sentences examined was 152. If it were not for the fact that two of these constructions involve rules for the use of the

¹ Illustrations of the various constructions of nouns in the nominative case.

(a) *Subject*.—The man soon found his place.

(b) *Predicate Attribute*.—He is the man of whom we spoke.

(c) *Appositive*.—Napoleon, the man of destiny, had tried again and failed.

(d) *Address*.—Men, I beg you to return to your homes.

(e) *Exclamation*.—Man, you are surely mistaken!

(f) *Absolute with a Participle*.—The man being watchful, we were compelled to move cautiously.

comma, we might dismiss them outright. Their occasional value here points out a place for the study of them in another connection than in mere identification in parsing. (See Table 32.)

TABLE 33.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CONSTRUCTIONS OF NOUNS IN THE GENITIVE CASE IN ALL MATERIAL

Construction	Per cent
Connection.....	83.1
Possession.....	15.3
With a Gerund.....	1.5

TABLE 34.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CONSTRUCTIONS OF NOUNS IN THE ACCUSATIVE CASE IN ALL MATERIAL

Construction	Per cent
Object of preposition.....	68.1
Direct object.....	24.2
Adverbial.....	3.0
Appositive.....	2.2
After like, unlike, etc.....	1.2
Subject of infinitive clause.....	.7
Retained object in passive voice.....	.3
Adjunct.....	.2
Predicate accusative.....	0
Secondary object.....	0
Cognate accusative.....	0

When we come to the theoretical accusative construction of nouns, we find grammar texts usually dealing with eight or nine possible types,—(1) direct object, (2) object of preposition, (3) appositives, (4) adjunct or factitive accusative, (5) adverbial, (6) predicate, (7) retained object with the passive

voice, (8) subject of infinitive.¹ Some texts discriminate the forms after "like, unlike, near, next, or as" from the prepositional construction.

The rôle which each of these constructions plays among the total number of accusatives is shown in Table 34.

It has already been noted that the genitives comprise 1.7 per cent of all nouns. The significant fact, usually disregarded in most texts, is that only 15.3 per cent of the genitives express possession, while 83.1 express "connection,"² and 1.5 per cent function as modifiers of gerunds. (See Table 33.)

In Chapter V,³ the adult extremes in the use of nouns in relation to the total number of words was shown. In the same connection,⁴ the trend in school material as to the proportionate number of nouns in the total number of words was presented.

Extremes in Adult Usage of Various Case Constructions of Nouns.—We might next show in detail some of the extremes

¹ Illustrations of the various constructions of nouns in the accusative (or objective) case.

(a) *Direct Object.*—We found the *man* easily.

(b) *Object of Preposition.*—He had been with the *man* four years.

(c) *Appositive.*—They exiled Napoleon, the *man* of destiny.

(d) *Adjunct.*—They elected Roosevelt *president*.

(e) *Adverbial.*—"Three *years* she grew in sun and shower."

(f) *Predicate Accusative.*—They knew him to be the *man* they were seeking.

(g) *Retained Object with the Passive Voice.*—Roosevelt was elected *president*.

(h) *Subject of Infinite.*—He commanded the *message* to be sent.

(i) *After "Like, Near, Etc."*—"Like a huge *organ*, rise the burnished arms."

The *man* was standing near the *corner*.

² Illustrations of the various constructions of nouns in the genitive case.

(a) *Possession.*—This *man's* farm will soon be mine.

(b) *Connection* (expressing authorship, relationship, etc.)—*Long-fellow's* poems have been widely read.

Father's children all respected him.

(c) *With a gerund.*—*John's* rousing us had made us all surly.

³ See page 72 and Tables 27 and 28.

⁴ See page 73 and Table 29.

in adult usage in the various cases of nouns and their constructions, when all nouns are parsed theoretically according to the conventional technique of grammar; but, for the sake of brevity, the tables and diagrams prepared to show this usage have all been eliminated. They all served to reenforce the conclusion we have already been led to,—that many of these constructions occur so infrequently that little heed should be paid to them in an elementary course in grammar.

TABLE 35.—DEVELOPMENT IN THE USE OF NOUNS IN SCHOOL MATERIAL
IN RATIO PER SENTENCE

Material	Ratio per sentence	Deficiency
Adult average.....	4.78	
University upper class.....	4.40	— .38
University freshmen.....	3.73	—1.05
High-school seniors.....	4.68	— .10
High-school juniors.....	4.33	— .45
High-school sophomores.....	4.22	— .56
High-school freshmen.....	3.79	— .99
Eighth grade.....	3.69	—1.09
Seventh grade.....	2.79	—1.99
Sixth grade.....	2.87	—1.91
Fourth grade.....	2.14	—2.64

Case Uses of Nouns in School Compositions.—Table 35 shows the trend in the use of nouns in school compositions. This table may be compared with Table 29 on page 74. In the latter connection it may be said that in Chapter V the relative proportion of nouns in the total number of words used was shown. Now we have a representation of the ratio of nouns per sentence. In both tables we find the same general condition illustrated,—a gradual and regular increase in the use of nouns. But here the development is shown in a more striking way, as proceeding from about one-half the adult standard in the intermediate grades to practically the adult average usage

by the close of the high school, with a slight recession in the university students' writings.

The most striking fact to be noted in regard to the use of nouns in school compositions when compared with the adult standard in terms of ratio per sentence is that all of the

TABLE 36.—DEVELOPMENT IN THE USE OF NOUNS IN THE NOMINATIVE, GENITIVE, AND ACCUSATIVE CASES IN SCHOOL MATERIAL IN RATIO PER SENTENCE

School level	Ratio per sentence of nouns in various cases			Excess or deficiency on basis of adult average		
	Nomi- native	Geni- tive	Accusa- tive	Nomi- native	Geni- tive	Accusa- tive
Adult average.....	1.28	.08	3.42			
University						
Upper class.....	1.19	.03	3.18	-.09	-.05	-.24
Freshmen.....	.97	.03	2.73	-.31	-.05	-.69
High school						
Seniors.....	1.37	.06	3.25	+.09	-.02	-.17
Juniors.....	1.29	.07	2.96	+.01	-.01	-.46
Sophomores ...	1.28	.02	2.89	0	-.06	-.53
Freshmen.....	1.17	.02	2.59	-.11	-.06	-.83
Grades						
Eighth.....	1.02	.05	2.62	-.26	-.03	-.80
Seventh.....	.70	.07	2.00	-.58	-.01	-1.42
Sixth.....	.87	.04	1.97	-.41	-.04	-.45
Fourth.....	.43	.02	1.70	-.85	-.06	-.72

material is on the deficiency side. (See Table 35.) But the development from one-half the adult ratio in the fourth grade to about the adult standard by the close of the high-school period is quite regular throughout. The fact that there are some irregularities in the trend, and that there is a recession during the college period, indicates that the nature of the subject-matter plays some part.

Nominative Case Usage.—The nominative case usage, and its three leading constructions, are analyzed further in Tables 36 and 37. The frequencies of the nominative case have already been shown to constitute about one-fourth of all nouns.¹ Of the nominatives about three-fourths are in the

TABLE 37.—SHOWING DEVELOPMENT IN THE USE OF THE NOMINATIVE CASE OF NOUNS IN THE CONSTRUCTIONS OF SUBJECT, PREDICATE ATTRIBUTE, AND APPOSITIVES IN SCHOOL MATERIAL, IN TERMS OF RATIO PER SENTENCE

School levels	Ratio of constructions per sentence			Excess or deficiency on basis of adult average		
	Sub- ject	Predi- cate at- tribute	Apposi- tives	Sub- ject	Predi- cate at- tribute	Apposi- tives
Adult average.....	.96	.20	.10			
University						
Upper class.....	1.01	.18	.01	+.05	-.02	-.09
Freshmen.....	.65	.30	.02	-.31	+.10	-.08
High school						
Seniors.....	1.14	.17	.06	+.18	-.03	-.04
Juniors.....	1.02	.20	.06	+.06	0	-.04
Sophomores ...	1.04	.14	.10	+.08	-.06	0
Freshmen.....	.99	.17	.01	+.03	-.03	-.09
Grades						
Eighth.....	.72	.20	.09	-.24	0	-.01
Seventh.....	.58	.11	.02	-.38	-.09	-.08
Sixth.....	.69	.13	.06	-.27	-.07	-.04
Fourth.....	.32	.06	.05	-.64	-.14	-.05

subject construction; about 16 per cent are predicate attributes; and 7.3 per cent are appositives.²

Table 37 indicates that the use of nouns in subject construction develops more regularly and rapidly than their use in the predicate attribute construction. The variation in the

¹ See page 79.

² See Table 32, page 80.

appositives is too irregular to speak of a development, but it is worth noting in Table 37 that almost all school material is strikingly defective in the use of appositives when compared with the adult average.

Genitive Case Usage.—The genitive case data in Table 36 are significant. All school writings betray a shrewd avoidance of the troublesome forms.

Accusative Case Usage.—The accusative case of nouns has been shown to include over 71 per cent of all nouns.¹ Two constructions, the object of a preposition and direct object, constitute fully 92 per cent of all the accusatives.² One other construction, the appositive, occurs with sufficient frequency to be included in Table 38. In Table 36, which represents the total usage of accusatives in school writing, we note first that the adult average ratio is never reached, though closely approached at about the close of the high school. Up to this point there is a regular development from about one-half that ratio in the fourth grade.

In the two principal constructions, shown in Table 38, there is evidence of a more sudden mastery of the direct object construction than that of the prepositional objective. Irregularities in the trend, however, indicate that we cannot altogether disregard the probable effect of the nature of the subject-matter as a factor in the variations. In Table 38, we see further evidence of the inability or disinclination to use appositives. All school compositions are below the adult standard in this usage.

The second column of Table 38 should be compared with Table 16 on page 56, which shows the development in the use of prepositional phrases regardless of whether the object is a noun or pronoun, and also with Table 46 on page 98, which shows school practice in the use of the accusative case of pronouns in the construction of object of a preposition.

The following facts are brought out by such a comparison:—

(a) There is a very close correspondence between the development in the total phrase usage and in those phrases

¹ See page 79.

² See Table 34.

having a noun for the object of the preposition. This is largely accounted for by the fact that in most material about 90 per cent of the objects of a preposition are nouns.¹

(b) But, more significant, it will be seen from Table 46 that pupils in the grades and high school seem consistently to avoid using pronouns also as object of prepositions, probably because of the chance for error.

TABLE 38.—SHOWING DEVELOPMENT IN THE USE OF THE ACCUSATIVE CASE OF NOUNS IN THE CONSTRUCTIONS OF DIRECT OBJECT, OBJECT OF PREPOSITION, AND APPOSITIVES IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School levels	Ratio per sentence for various accusative constructions			Excess or deficiency on basis of adult average		
	Direct object	Object of preposition	Appositive	Direct object	Object of preposition	Appositive
Adult average.....	.81	2.35	.08			
University						
Upper class.....	.75	2.32	.02	— .06	— .03	— .06
Freshmen.....	.77	1.77	.02	— .04	— .58	— .06
High school						
Seniors.....	.84	2.11	.02	+ .03	— .24	— .06
Juniors.....	.72	1.98	.06	— .09	— .37	— .02
Sophomores ...	.76	1.91	.06	— .05	— .44	— .02
Freshmen.....	.74	1.65	.03	— .07	— .70	— .05
Grades						
Eighth.....	.66	1.78	.03	— .15	— .57	— .05
Seventh.....	.61	1.28	.00	— .20	— 1.07	— .08
Sixth.....	.41	1.38	.04	— .40	— .97	— .04
Fourth.....	.65	.76	.03	— .16	— 1.59	— .05

The Teaching of Nouns.—(1) In estimating the value of the conventional material on noun constructions presented in grammar text books, we now have a basis for testing the values

¹ Compare Tables 38 and 46.

involved in the fine distinctions that are often made. What effect does a construction have on the form that is to be used? Unless a noun is to express possession, connection, or one of the characteristic relationships involved in the genitive case, or unless it is used as a modifier of a gerund, no ingenuity will be needed to choose the right form. What difference does it make whether a noun is used as subject or as predicate? Why insist on the pupil's being able to distinguish between the nominative of address and the nominative of exclamation? Why worry about the *case* of appositives? Even if all such nominative and accusative constructions can be parsed, the whole refinement will add nothing to the pupil's language mastery. The whole logical refinement involves the learning of six reasons for the nominative construction, and of eleven for the accusative.

Table 32 shows that over 90 per cent of all nominatives are either subject or predicate attribute, and 7 per cent more are appositives. This leaves the nominatives of address and of exclamation and the absolute use with the participle less than two per cent of all nominative constructions and with a combined ratio of 1.5 to 100 sentences.

Similarly, Table 34 shows that over 92 per cent of all accusatives are accounted for by two constructions; while most of the 11 possible constructions are too infrequent to warrant any expenditure of school time.

In short, parsing as usually practiced involves a waste of time on refinements of construction rarely found in everyday expression.

(2) The time of a language class devoted to the study of nouns should be spent on:

- (a) The use of the correct forms of the genitive case.
- (b) The proper understanding of the "non-possessive" uses of the genitive case.
- (c) A freer use of appositives.
- (d) A freer use of prepositional phrases.

(3) Perhaps the most significant fact about the use of nouns in school compositions is the evidence of a consistent evasion

of the first three constructions noted above, because of the chance for error involved in each.

The whole time devoted to nouns in a course in grammar might profitably be spent on these four topics alone. Constant drill exercises, in sentence context, for correct use of genitives, whether "possessive" or "connective" in meaning, should be held throughout the upper-grade and high-school courses in English.

The freer use of appositives and prepositional phrases can best be secured by practice on direct exercises requiring the insertion of these types of modifiers. More specific analysis of the needs with reference to prepositional phrases was made in Chapter IV.

In correcting themes any evidences of circumlocution to avoid the use of these constructions should be marked for revision to discourage the tendency to evade the difficulties. This may be defended on the basis of the value of each of these constructions in the achievement of brevity and exactness of expression.

Case Usage of Pronouns.—In Chapter V,¹ adult extremes in the use of pronouns in relation to the total number of words were noted. In the same connection² the trend in school material as to the proportionate number of pronouns in the total number of words was presented.

The problem of the case construction of pronouns is very different from the problem in noun usage. Here one of the most important elements of inflection enters. A change in meaning involves a change in form. Nearly one-half of the pronouns used are in some case other than the nominative, and correct usage requires a knowledge of the declension involved. Further, because of this variety of forms, we find that even some of the nominative constructions involve possibilities of error. Again, as will appear in a later section of this chapter, the more highly inflected classes of pronouns, the personal and relatives, comprise about 85 per cent of all pronouns.

¹ See Table 28.

² See Table 29.

However, there are a number of constructions in each of the cases occurring so infrequently as to require but little emphasis in a course in grammar, even if ability to identify the constructions were an aid to correct or effective expression, which is doubtful.

As a basis for computing the significance of some of these forms it must be recalled¹ that pronouns constitute 10.7 per cent of the total number of words used, and that we usually find about two to every sentence, counting all possible types and forms.

Of all pronouns, 57.9 per cent are in the nominative case, 18.6 per cent in the genitive, 1.3 per cent in the dative, and 22.1 per cent in the accusative case.² (See Table 39.)

TABLE 39.—RELATIVE IMPORTANCES OF DIFFERENT CASES OF PRONOUNS
IN ALL MATERIAL

Cases	Per cent of total
Nominative.....	57.9
Accusative.....	22.1
Genitive.....	18.6
Dative.....	1.3

Tables 40 to 42 show the relative importance of the various constructions for the nominative, genitive, and accusative cases.

On the basis of frequency alone, the parsing or identification of various constructions in the nominative case does not seem to be worth while. But the predicate attribute construction, though comparatively infrequent, involves a possibility of error that is a common pitfall, and we must consider this in teaching grammar. The overcoming of this common fault can be achieved only by an understanding of the construc-

¹See Table 27.

² Illustrations of pronouns in the four case forms may be found in the immediately succeeding footnotes showing their uses in the various constructions for each of the case forms.

tion as well as by drill intended to train the ear to the correct usage. The rest of the constructions may safely be ignored.

TABLE 40.—RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CONSTRUCTIONS OF PRONOUNS IN THE NOMINATIVE CASE IN ALL MATERIAL¹

Constructions	Per cent of total
Subject.....	96.6
Predicate attribute.....	2.1
Appositive.....	.9
Absolute with participle.....	.1
Address.....	.0
Exclamation.....	.0

¹ Illustrations of pronouns in the various constructions of the nominative case.

(a) *Subject*.—*This* is he of whom I have often spoken.

(b) *Predicate Attribute*.—*This* is *he* of whom I have often spoken.

(c) *Appositive*.—*This* is John, *he* of whom I have often spoken.

(d) *Absolute with a Participle*.—*This* being demonstrated, we may now proceed.

(e) *Address*.—*You*, John, I want you to help.

(f) *Exclamation*.—*You!* How could one dream you would be here.

TABLE 41.—RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CONSTRUCTIONS OF PRONOUNS IN THE GENITIVE CASE IN ALL MATERIAL

Constructions	Per cent of total
Connection.....	85.6
Possession.....	13.7
With gerund.....	.6

In connection with the genitive case we again see the importance of the "non-possessive" construction.¹ (See Table 41.)

¹ Illustrations of pronouns in the various constructions of the genitive case.

(a) *Connection*.—*His* poems were never popular.

(b) *Possession*.—*His* land stretched to the horizon on every side.

(c) *With a Gerund*.—I praised *his* standing by his honest convictions.

This emphasizes the need for a different treatment of the genitive case from that generally given in the grammar courses. There must be a more direct attack on one of the common sources of error in the use of this case, although the genitive pronoun forms do not involve the same possibilities of error as the same case in the noun forms.

In the accusative case uses of pronouns we see the same striking condition found in the noun constructions in this case. Again, only two of the constructions are frequent. The direct object and object of preposition constructions constitute about 90 per cent of all accusatives.¹ Six of the possible constructions occur so infrequently that together they constitute but three-tenths of one per cent of the total accusatives used. Another case form, the adverbial accusative, which amounts to 2.9 per cent of the total usage, is counted as such only by a technical logical refinement that is sometimes open to dispute; and even when interpreted as a case form it usually involves no inflection. Most of these are adverbial uses of the indefinite pronouns "much," "many," "more," "less," as in the phrase "weighed *more*." The details about the usage of various constructions are shown in Table 42.

¹ Illustrations of the various constructions of pronouns in the accusative case.

- (a) *Direct Object*.—I knew *him* very well.
- (b) *Object of Preposition*.—This is he of *whom* I have often spoken.
- (c) *Subject of Infinitive Clause*.—"And I will wish *thee* never more to dance."
- (d) *Adverbial Accusative*.—He weighed *more* than his brother.
- (e) *Appositive*.—They saw the king, *him* whom the fortunes of war had deposed.
- (f) *Adjunct*.—I called him *that*.
- (g) *After "like," etc.*—It was like *him* to sacrifice his work for you.
- (h) *Retained Object with Passive Voice*.—He was given *these* by a friend.
- (i) *Predicate Accusative*.—They knew it to be *him* they were seeking.
- (j) *Secondary Object*.—They asked him *that* alone.

TABLE 42.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF
VARIOUS CONSTRUCTIONS OF PRONOUNS IN THE ACCUSATIVE CASE
IN ALL MATERIAL

Constructions	Per cent of total
Direct object.....	48.1
Object of preposition.....	41.8
Subject of infinitive clause.....	4.3
Adverbial accusative.....	2.9
Appositive.....	1.2
Adjunct.....	.1
After like, unlike, etc.....	.1
Retained object in passive voice.....	.1
Predicate accusative.....	.0
Secondary object.....	.0
Cognate accusative.....	.0

Adult Extremes in Case Uses of Pronouns.—The data about adult extremes in the use of the four cases and their various constructions, as originally prepared in tables and diagrams, must be condensed in order not to burden the reader. A brief summary of some of the more significant items may be given by presenting the highest and lowest extremes in comparison with the respective adult averages. All of these items may be read as “per 100 sentences” if the decimal points are omitted.

1. Total number of pronouns used:

Adult average ratio per sentence.....	2.11
Highest extreme—Stevenson.....	3.30
Lowest extreme—Associated Press.....	1.13
2. Total number of nominative cases:

Adult average ratio per sentence.....	1.20
Highest extreme—Stevenson.....	1.81
Lowest extreme—Associated Press.....	.68
3. Total number of genitive cases:

Adult average ratio per sentence.....	.40
Highest extreme—Wright narrative.....	.72
Lowest extreme—Associated Press.....	.13

4. Total number of dative cases:	
Adult average ratio per sentence.....	.03
Highest extreme—Women's letters.....	.09
Lowest extreme—Several.....	.01
5. Total number of accusative cases:	
Adult average ratio per sentence.....	.47
Highest extreme—Stevenson.....	.75
Lowest extreme—Associated Press.....	.18
6. Nominatives in subject construction:	
Adult ratio per sentence.....	1.16
Highest extreme—Stevenson.....	1.73
Lowest extreme—Associated Press.....	.65
7. Nominatives in predicate attribute construction:	
Adult ratio per sentence.....	.03
Highest extreme—Stevenson.....	.04
Lowest extreme—Several.....	.01
8. Genitives in connective construction:	
Adult ratio per sentence.....	.35
Highest extreme—Wright narrative.....	.62
Lowest extreme—Associated Press.....	.10
9. Genitives in possessive construction:	
Adult ratio per sentence.....	.05
Highest extreme—Stevenson.....	.29
Lowest extreme—Wm. Hard.....	.00
10. Accusatives in direct object construction:	
Adult ratio per sentence.....	.22
Highest extreme—Women's letters.....	.34
Lowest extreme—Associated Press.....	.07
11. Accusatives as objects of preposition:	
Adult ratio per sentence.....	.20
Highest extreme—Stevenson.....	.41
Lowest extreme—Associated Press.....	.10
12. Adverbial accusative construction:	
Adult ratio per sentence.....	.01
Highest extreme—Women's letters.....	.04
Lowest extreme—Several.....	.00
13. Accusatives in subject of infinitive clause construction:	
Adult ratio per sentence.....	.02
Highest extreme—Women's letters.....	.06
Lowest extreme—Associated Press.....	.00

Case Uses of Pronouns in School Material.—Table 43 shows the variations in the use of pronouns in school compositions. This may be compared with Table 29 on page 74. In Chapter V, we were able to trace quite a marked trend

in relative decrease in the proportion of pronouns in the total number of words used. The decrease proceeded irregularly from about double the adult standard in the fourth-grade compositions to less than the adult average in all high-school writing, with a slight excess over the adult average in the university compositions.

On the basis of ratios per sentence (See Table 43.) we can merely speak of variation, for no regular trend appears; the nature of the material seems a more determining factor than the stage of development.

TABLE 43.—VARIATION IN THE USE OF PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency on basis of adult average
Adult average.....	2.11	
University upper class.....	2.45	+ .34
University freshmen.....	2.72	+ .61
High-school seniors.....	1.56	— .55
High-school juniors.....	1.57	— .54
High-school sophomores.....	1.34	— .77
High-school freshmen.....	1.54	— .57
Eighth grade.....	1.56	— .55
Seventh grade.....	2.04	— .07
Sixth grade.....	1.35	— .76
Fourth grade.....	2.18	+ .07

Perhaps the most striking fact shown in Tables 43 to 46 is the deficiency in the use of pronouns in all the cases, when compared with the adult average, throughout the grades and the high-school period. There is but one exception in Table 43, which presents the usage of all pronouns in school compositions. That exception is in the fourth-grade material. It has already been noted that this material consisted of a series of letters telling about the children's own experiences. A comparison of Tables 44 and 45 with

43 will show that three-fourths of the pronouns were "I" or "he" used as subjects of sentences.

The evidence as a whole indicates a period of three or four years in the upper grades and early high-school years when a consciousness of the difficulty in handling pronouns leads to a constantly increasing tendency to avoid them.

TABLE 44.—DEVELOPMENT IN THE USE OF THE NOMINATIVE CASE OF PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School levels	All nomina- tives	Nomina- tives used as subject	Excess or deficiency on basis of adult average	
			All nomina- tives	In subject construc- tion
Adult average.....	1.21	1.16		
University				
Upper class.....	1.52	1.48	+.31	+.32
Freshmen.....	1.60	1.53	+.39	+.37
High school				
Seniors.....	.90	.86	-.31	-.30
Juniors.....	.95	.91	-.26	-.25
Sophomores.....	.87	.83	-.34	-.33
Freshmen.....	.98	.94	-.23	-.22
Grades				
Eighth.....	1.03	1.00	-.18	-.16
Seventh.....	1.25	1.20	+.04	+.04
Sixth.....	.85	.84	-.36	-.32
Fourth.....	1.50	1.50	+.29	+.34

Further, in comparing school compositions with adult usage, we find that in all the elementary grades the ratio of genitives per sentence exceeds the ratio of accusatives. From the beginning of the high-school period the relative proportion of the two cases conforms with the adult practice. (Compare Tables 45 and 46.)

The developmental trend in the use of the genitive case of pronouns (See Table 45.) is interesting. Throughout the grades and high-school years there is a deficiency in comparison with the adult average. In a general way this deficiency appears to become increasingly greater through the grades and the first two years of high school. Then an equally decided trend toward the adult average sets in, and in the upper classes of the university an excess appears. A comparison of the second and third columns in Table 45 will show that this trend is practically dominated by the connective constructions

TABLE 45.—DEVELOPMENT IN THE USE OF GENITIVE CASE OF PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	All genitives	Genitives of con- nection	Genitives of pos- session	Excess or deficiency on basis of adult average		
				All genitives	Genitives of con- nection	Genitives of pos- session
Adult average.....	.40	.35	.05			
University						
Upper class.....	.43	.39	.04	+.03	+.04	-.01
Freshmen.....	.40	.38	.01	.00	+.03	-.04
High school						
Seniors.....	.34	.32	.02	-.06	-.03	-.03
Juniors.....	.30	.22	.09	-.10	-.13	+.04
Sophomores.....	.19	.14	.06	-.21	-.21	+.01
Freshmen.....	.25	.21	.03	-.15	-.14	-.02
Grades						
Eighth.....	.28	.23	.05	-.12	-.12	.00
Seventh.....	.39	.27	.12	-.01	-.08	+.07
Sixth.....	.28	.26	.02	-.12	-.09	-.03
Fourth.....	.33	.27	.06	-.07	-.08	+.01

of the genitive case. The variation in the possessive constructions is irregular. (See Table 45.) The data, therefore, is of such a nature as to emphasize the need of developmental exercises with connective genitives, if this construction has any expressional values, and if the adult average may be taken as a desirable one for pupils to attain in their language mastery.

Accusative Constructions of Pronouns.—The strict avoidance of pronouns in the construction of object of a preposition throughout the grades and high-school period cannot be overlooked. In general about one-half the standard adult usage is found in all school compositions analyzed below the university level. (See Table 46.)

TABLE 46.—DEVELOPMENT IN THE USE OF THE ACCUSATIVE CASE OF PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	All accusatives	As direct object	Object of preposition	Excess or deficiency on basis of adult average		
				All accusatives	As direct object	Object of preposition
Adult average.....	.47	.22	.20			
University						
Upper class.....	.49	.27	.20	+.02	+.05	.00
Freshmen.....	.70	.36	.27	+.23	+.14	+.07
High school						
Seniors.....	.30	.14	.13	-.17	-.08	-.07
Juniors.....	.30	.16	.12	-.17	-.06	-.08
Sophomores ...	.27	.15	.10	-.20	-.07	-.10
Freshmen.....	.30	.16	.10	-.17	-.06	-.10
Grades						
Eighth.....	.23	.11	.10	-.24	-.11	-.10
Seventh.....	.37	.23	.10	-.10	+.01	-.10
Sixth.....	.21	.11	.09	-.26	-.11	-.11
Fourth.....	.31	.15	.11	-.16	-.07	-.09

This is partly accounted for by the inability of students to use prepositional phrases freely. No school group, even including university students, was found that reached the adult average practice. (See Table 46, and compare Table 15, page 54.)

The possibility of error in the use of pronouns after a preposition no doubt leads pupils to avoid this construction if a circumlocution is at hand. That this is a plausible explanation has been pointed out in several other connections, where school compositions show consistent deficiencies in usage in those grammatical constructions which involve high probabilities of error.

Usage of Various Classes of Nouns.—Considerable space is devoted in most grammars to the classification of nouns according to their *meaning*. Some variation is found in details; but, aside from the useful distinction between common and proper nouns, much time is often spent in classifying common nouns into such subclasses as *concrete*, *abstract*, *material*, and *collective*.¹ On the other hand, very few grammars call attention to the rapidly increasing use of nouns as adjectives, which in some of the newspaper writing of to-day often exhibits a cumulation of three or four noun modifiers of a single word, and to the substitution of nouns for adjectives when a common adjectival form is available.

Only two phases of the classification of nouns have any practical significance in language mastery,—first, the recognition, for purposes of capitalization, of all proper nouns; and second, the recognition of collective nouns because of possible difficulties in respect to subject and predicate agreement. Of all discriminations attempted in this study, on the basis of conventional nomenclature, none was so difficult and unsatisfactory as the classification of common nouns as *concrete* or *abstract*; but the distinction was persisted in because of a growing conviction that even an approximation of the relative frequencies of these two classes might have considerable value in the study of mental development at different school levels.

¹ Illustrations of the various classes of nouns.

(a) *Concrete (Common)*.—The rope was made of hemp.

(b) *Abstract*.—John drew the bundles of fagots up with ease.

(c) *Proper*.—John drew the bundles up.

(d) *Nouns Used as Adjective*.—John drew the fagot bundles up.

(e) *Collective*.—John drew the bundles up.

(f) *Material*.—The rope was made of hemp.

The relative frequency of the various classes of nouns found in all material is shown in Table 47. About one-half of all nouns—48.8 per cent—are *abstract*; about one-fourth—24.6 per cent—are *concrete*, and 17.7 per cent are *proper*. The adult ratios per sentence are as follows: all nouns, 4.21; common (concrete) .93; abstract, 2.10; proper, .81. Of the remaining classes we find 25 nouns used as adjectives in every one hundred sentences; eight collective and four material nouns in 100 sentences.

TABLE 47.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CLASSES OF NOUNS IN ALL MATERIAL

Classes of nouns	Per cent
Abstract.....	48.8
Concrete.....	24.6
Proper.....	17.7
Nouns used as adjectives.....	6.2
Collective.....	1.9
Material.....	.7

Adult Usage of Different Classes of Nouns.—Table 48 presents the adult extremes in the use of different classes of nouns.

A number of significant tendencies may be briefly noted:—

1. The material nouns are so infrequent as to be negligible.
2. The most extreme variations from the average are found in the use of proper nouns. This can very evidently be attributed to the nature of the subject matter. (See column 4, Table 48.)

3. One would hardly expect proper nouns to exceed concrete nouns. Yet this is true of four groups of writings,—in Macaulay, and in three varieties of newspaper writing,—R. H. Little, Associated Press, and Herald editorials. (Compare columns 1 and 4.)

4. Nouns used as adjectives also present wide extremes. Perhaps the most significant fact is the excessive use of such

constructions in some of the newspaper writing and in business letters. (See column 5.)

5. Abstract nouns average about one-half of all nouns in ratio per sentence. But it is not necessarily true of adult writing, as might be superficially expected, that excessive use

TABLE 48.—ADULT EXTREMES IN THE USE OF VARIOUS CLASSES OF NOUNS IN TERMS OF RATIO PER SENTENCE

Material	Concrete	Abstract	Collective	Proper	Nouns as adjectives
Adult average.....	1.14	2.42	.09	.88	.30
Brisbane.....	1.61	1.18	.09	1.12	.24
Wright narrative.....	1.52	3.44	.09	.93	.24
Women's letters.....	1.40	1.31	.04	.22	.14
Stevenson.....	1.21	1.80	.02	.20	.04
R. H. Little.....	1.19	2.84	.13	2.44	.75
Business letters.....	1.09	2.81	.10	.85	.57
Macaulay.....	1.00	2.96	.08	1.94	.06
Associated Press.....	.91	3.56	.34	1.93	.81
William Hard.....	.81	1.63	.05	.52	.06
Oppenheim conversation.....	.65	1.38	.02	.54	.08
Herald editorials.....	.40	3.58	.10	.73	.06
Wright conversation.....	.31	1.20	.03	.61	.06

of abstract nouns is accompanied by a corresponding deficiency of concrete nouns, and vice versa. In fact, the correlation between the ratios of concrete and abstract nouns per sentence is very near zero,—.15.

For four of the twelve items in columns 1 and 2 there is a strong inverse relationship, Brisbane being first in the ratio of concrete nouns per sentence and last in the ratio of abstract nouns; the Herald editorials eleventh and first respectively for concrete and abstract; the Associated Press, eighth and second; and women's letters third and tenth. The rest rank practically the same in the use of both classes of nouns.

This table should be compared with Table 50 which deals with school compositions. There is a large negative correlation,—.63, between the items in the latter table. There is, with the exception of the fourth-grade and the university upper-class material, a fairly marked trend toward a decrease from an excessive proportion of concrete nouns, with a regular, striking increase in the use of abstract nouns. The exceptional character of the fourth-grade material is accounted for by the disproportionate use of pronouns in the first person singular. It must, therefore, not be overlooked that the character of the material is an important factor also.

Classes of Nouns Used in School Material.—The adult average ratio of 4.87 nouns per sentence is reached about the first year of high school. The progress to that point is gradual from the fourth grade on, where the ratio of nouns per sentence is about half of the adult. Throughout the high school the ratio continues to increase to an excess of about 25 per cent, and in the university material it drops below the adult average again.

In a general way there is a trend in the grade and high-school material from double the adult ratio in the number of concrete nouns to approximately the adult proportion by the close of the high-school period. (See Table 50.) But the extreme deviations from this general trend in both the lower and upper university groups, the former to a striking deficiency and the latter to an equally striking excess, warn one against placing too much significance on the trend. Other factors, such as the character of the subject, must be controlled before we can attach much importance to the development.¹

There are, of course, reciprocal facts in the ratios of abstract nouns in the different school grades. There is a constantly increasing trend from the sixth grade through the university freshman material, a regular advance from .45 per sentence to 2.80 per sentence. The adult ratio of 2.42 per sentence is reached by the senior class of the high school. But the fourth grade and the university upper class material runs counter to the general trend quite strongly. (See Table 50.)

¹ Compare page 101.

TABLE 49.—DEVELOPMENT IN THE USE OF NOUNS IN THE WRITING OF SCHOOL CHILDREN, IN TERMS OF RATIO PER SENTENCE

School level	Ratio per sentence	Excess or deficiency
Adult average.....	4.87	
University upper class.....	4.15	— .72
University freshmen.....	3.68	—1.19
High-school seniors.....	5.09	+ .22
High-school juniors.....	4.77	— .10
High-school sophomores.....	4.56	— .31
High-school freshmen.....	4.13	— .74
Eighth grade.....	3.80	—1.07
Seventh grade.....	2.71	—2.16
Sixth grade.....	2.82	—2.05
Fourth grade.....	2.33	—2.54

TABLE 50.—DEVELOPMENT IN THE USE OF CONCRETE AND ABSTRACT NOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	Concrete nouns	Abstract nouns	Excess or deficiency	
			Concrete nouns	Abstract nouns
Adult average.....	1.14	2.42		
University				
Upper class.....	2.32	1.65	+1.18	— .77
Freshmen.....	.30	2.80	— .84	+ .38
High school				
Seniors.....	1.07	2.45	— .07	+ .03
Juniors.....	1.39	1.98	+ .25	— .44
Sophomores.....	1.23	1.87	+ .09	— .55
Freshmen.....	1.07	1.75	— .07	— .67
Grades				
Eighth.....	1.70	.91	+ .56	—1.51
Seventh.....	1.92	.47	+ .78	—1.95
Sixth.....	1.85	.45	+ .71	—1.97
Fourth.....	.67	1.21	— .47	—1.21

Approximation to the adult standard in the use of proper nouns is reached by the eighth grade, and the ratio remains fairly constant throughout the high school. But in the university material we again get ratios which indicate that other factors must be quite as important as age and school progress. (See Table 51.)

Practically the same thing is true concerning the use of nouns as adjectives. (See Table 51.) The material and collective noun groups are too small to give us anything of significance in a developmental analysis.

TABLE 51.—DEVELOPMENT IN THE USE OF PROPER NOUNS AND OF NOUNS USED AS ADJECTIVES IN SCHOOL MATERIAL, IN TERMS OF RATIO PER SENTENCE

School level	Proper nouns	Nouns as adjectives	Excess or deficiency	
			Proper nouns	Nouns as adjectives
Adult average.....	.88	.30		
University				
Upper class.....	.04	.06	— .84	— .24
Freshmen.....	.27	.20	— .61	— .10
High school				
Seniors.....	1.07	.36	+ .19	+ .06
Juniors.....	.88	.37	.00	+ .07
Sophomores.....	.98	.33	+ .10	+ .03
Freshmen.....	.78	.32	— .10	+ .02
Grades				
Eighth.....	.85	.23	— .03	— .07
Seventh.....	.22	.08	— .66	— .22
Sixth.....	.44	.03	— .44	— .27
Fourth.....	.30	.13	— .58	— .17

The material noun hardly appears in school compositions at any level. Collective nouns are relatively so infrequent that we are hardly justified in making any analysis from a developmental point of view. Only 259 collective nouns were found in all the school compositions.

Usage of Various Classes of Pronouns.—The adult ratio of pronouns per sentence is 2.11. Textbooks commonly distinguish nine classes of pronouns according to meaning.¹ Four of these may be admitted to be important on the basis of frequency of usage. Of all pronouns 72.7 per cent are personal, and the fact that this class involves important changes in declension forms for case, number, and even gender, makes this frequency doubly significant. The ratio per sentence is 1.48. The relatives, which also involve some inflectional changes, are next in importance, though far below the personals, on the basis of frequency. They constitute 11.9 per cent of all pronouns, and we find 24 to every 100 sentences. The indefinite pronouns constitute 8.7 per cent of the total, with 18 for every 100 sentences. The demonstratives constitute 3.9 per cent of the total, and we find eight in every hundred sentences. The remaining five classes, the reflexive, interrogative, reciprocal, intensive, and identifying, together constitute only three per cent of all pronouns, and we would expect to find about six of these forms in 100 sentences. (See Table 52.) The facts summarized above will show that detailed presentation of any but the four most frequently used classes of pronouns can serve no practical purpose.²

The variations in adult usage of all classes of pronouns are shown in Table 53.

¹ Illustrations of classes of pronouns according to meaning.

- (a) *Personal*.—*I saw him go away.*
- (b) *Relative*.—*This is he of whom I have often spoken.*
- (c) *Indefinite*.—“*Many are called, but few are chosen.*”
- (d) *Demonstrative*.—*This is easy, that would be hard.*
- (e) *Reflexive*.—*He saw himself doing all the work.*
- (f) *Interrogative*.—*Whom seek ye?*
- (g) *Reciprocal*.—*They sought each other for a year.*
- (h) *Intensive*.—*He vowed he himself would go.*
- (i) *Identifying*.—*This box was the same I had lost.*

² The figures given above are for all material, school compositions as well as adult writings. Adult averages are given following Table 52;

TABLE 52.—SHOWING RELATIVE PERCENTAGES OF FREQUENCY OF VARIOUS CLASSES OF PRONOUNS IN ALL MATERIAL

Classes of pronouns	Per cent
Personal.....	72.7
Relative.....	11.9
Indefinite.....	8.7
Demonstrative.....	3.9
Reflexive.....	1.4
Interrogative.....	.8
Reciprocal.....	.3
Intensive.....	.3
Identifying.....	.2

The details in the matter of adult extremes in the usage of the four more important classes of pronouns may be presented in a brief summary giving the adult average and the highest and lowest extremes. This is shown following Table 53.

TABLE 53.—SHOWING ADULT EXTREMES IN THE USE OF PRONOUNS IN TERMS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency on basis of adult average
Adult average.....	2.11	
Stevenson.....	3.30	+1.19
Women's letters.....	2.95	+ .84
Oppenheim conversation.....	2.51	+ .40
Business letters.....	2.39	+ .28
Wright narrative.....	2.28	+ .17
R. H. Little.....	2.14	+ .03
William Hard.....	1.77	- .34
Local news.....	1.56	- .55
Chenery.....	1.42	- .69
Herald editorials.....	1.36	- .75
Brisbane.....	1.32	- .79
Associated Press.....	1.13	- .98

1. Personal pronouns:	
Adult average ratio per sentence.....	1.53
Highest extreme—women's letters.....	2.44
Lowest extreme—Associated Press.....	.79
2. Relative pronouns:	
Adult average ratio per sentence.....	.26
Highest extreme—Stevenson.....	.39
Lowest extreme—several.....	.12
3. Indefinite pronouns:	
Adult average ratio per sentence.....	.17
Highest extreme—Stevenson.....	.32
Lowest extreme—William Hard.....	.07
4. Demonstrative pronouns:	
Adult average ratio per sentence.....	.08
Highest extreme—Stevenson.....	.13
Lowest extreme—William Hard.....	.02

TABLE 54.—DEVELOPMENT IN THE USE OF PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	Ratio per sentence	Excess or deficiency on basis of adult average
Adult average.....	2.11	
University upper class.....	2.41	+ .30
University freshmen.....	2.73	+ .62
High-school seniors.....	1.56	— .55
High-school juniors.....	1.57	— .54
High-school sophomores.....	1.32	— .79
High-school freshmen.....	1.54	— .57
Eighth grade.....	1.48	— .63
Seventh grade.....	1.95	— .16
Sixth grade.....	1.29	— .82
Fourth grade.....	2.19	+ .08

Classes of Pronouns Used in School Material.—In the ratio of pronouns per sentence, as can be seen in Table 54, there is evidence of a late developmental trend in the school work examined. Throughout the grades and the four years of high school, the ratio of pronouns per sentence is slightly but consistently below that for all adult material. However,

the deficiencies are irregular, which leads to the conclusion that the nature of the material is also an important factor.

The two succeeding tables indicate that this is largely true for the total number of pronouns because it is so strikingly true of personal pronouns, which, it will be recalled, constitute

TABLE 55.—DEVELOPMENT IN THE USE OF PERSONAL AND DEMONSTRATIVE PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	Personal pronouns	Demonstrative pronouns	Excess or deficiency	
			Personal	Demonstrative
Adult average.....	1.53	.08		
University				
Upper class.....	1.54	.12	+.01	+.04
Freshmen.....	1.95	.08	+.42	.00
High school				
Seniors.....	1.00	.16	-.53	+.08
Juniors.....	1.00	.11	-.53	+.03
Sophomores.....	.92	.08	-.61	.00
Freshmen.....	1.03	.09	-.50	+.01
Grades				
Eighth.....	1.18	.04	-.35	-.04
Seventh.....	1.65	.02	+.12	-.06
Sixth.....	1.09	.01	-.44	-.07
Fourth.....	1.96	.05	+.43	-.03

nearly three-fourths of all pronouns. It may seem pertinent to give a general indication of the nature of the material that was analyzed. Taking the four groups that show a large excess in personal pronouns in Table 55, we find the university upper-class students presenting their views on social and educational problems, which, in fulfillment of the assignments, called for illustration from personal experience and observation. Most of the university freshmen wrote on "The Friend I Like Best" or "The Study I Have Enjoyed Most This Year."

One group of seventh-grade pupils wrote on the picture, "The Song of the Lark," and treated, in large part, of the girl and of the artist. The fourth-grade pupils wrote letters about their school life. On the other hand, the topic assigned for the four high-school classes was quite impersonal, "Some Current Event."

TABLE 56.—DEVELOPMENT IN THE USE OF RELATIVE AND INDEFINITE PRONOUNS IN SCHOOL MATERIAL IN TERMS OF RATIO PER SENTENCE

School level	Relative pronouns	Indefinite pronouns	Excess or deficiency	
			Relative pronouns	Indefinite pronouns
Adult average.....	.26	.17.		
University				
Upper class.....	.42	.25	+.16	+.08
Freshmen.....	.28	.34	+.02	+.17
High school				
Seniors.....	.19	.18	-.07	+.01
Juniors.....	.23	.20	-.03	+.03
Sophomores.....	.16	.14	-.10	-.03
Freshmen.....	.18	.22	-.08	+.05
Grades				
Eighth.....	.13	.10	-.13	-.07
Seventh.....	.12	.10	-.14	-.07
Sixth.....	.13	.04	-.13	-.13
Fourth.....	.02	.13	-.24	-.04

When we examine the remainder of the pronouns as they are presented in Tables 55 and 56, we probably have a residue that presents a fair picture of developments in language control. In the use of relative pronouns there is a constant and quite regular development from practically none in the fourth grade to almost double the adult average in university upper-class writing, with the adult standard attained at about the upper years of the high school. In the matter of indefinite pronouns

we find quite a regular trend from one-fourth the adult average use in the sixth grade to double that standard in university freshman work. (See Table 56.) But the fourth-grade material and the university upperclass compositions do not prevent our feeling that the nature of the material is still present as a factor. Practically the same situation is shown for demonstrative pronouns in Table 55, although the development seems slightly more rapid and a little less regular.

Criticism of Courses in Grammar in View of Usage.—Now that we have the facts as to common usage before us, and find little justification for the elaborate treatment of case construction of nouns and for the classifications of nouns and pronouns, we may draw some conclusions for teaching.

1. The detailed emphasis on case construction of nouns seems entirely unwarranted. Usage gives little justification for fictitious formal distinctions where these do not really exist. The formal distinctions have been introduced for nouns even where the case forms are lost. The distinctions were artificially made, either because of the analogy of distinctive case forms in pronouns, or as a preparation for such distinctions in foreign-language grammar, where they do exist and must be learned. It would be out of place to discuss the justification of this phase of English grammar for the sake of furnishing a foreign-language background. We are justified merely in asserting that usage does not warrant much emphasis on case constructions of nouns.

2. On the other hand, in the study of pronouns, this emphasis on case construction is warranted, and is vitally necessary for successful language mastery. This applies to declension forms of demonstrative, relative, and interrogative pronouns as well as of personal pronouns.

3. The distinctions in classification of both nouns and pronouns must also be admitted to be futile. These classifications are logical inventions with little functional value in language mastery. Of all the classifications of nouns, only the least frequently used, the collective, give occasional reason for variations in syntactical relationships. The distinctions

as to classes of pronouns involve refinements, for the sake of logical completeness in the grammar texts, that are used very rarely.

4. Moreover, two common types of error, the improper use of personal for demonstrative pronouns, and the use of the wrong case forms for the relative or interrogative, are not avoided by a knowledge of the logical distinctions involved. The time spent on the learning of classifications might more profitably be employed in direct drill on proper usage in respect to these few treacherous phases of language control. Drill in proper contexts to train the ear is advised as a substitute for classification exercises.

5. If we must have declension of nouns, there is practically no justification, on the basis of frequency of usage, for the recent addition of the dative case, taken up by grammar texts as a result of the N. E. A. Nomenclature Committee's Report, and little justification for the dative distinction in pronouns.

6. In the declension of nouns the identification of the nominative and accusative forms in a "common" case seems justified, though frequency of usage can hardly be used as an argument in the matter.

7. The substitution of the word "genitive" for "possessive" gains justification from the fact that frequency of usage shows that ideas of relation, source, etc., far outnumber the purely possessive implications of this case for both nouns and pronouns.

In the genitive case we see from Table 41 that the proportion of connective and relationship uses exceed the strict possessive use by a ratio of more than six to one. It must be admitted that the distinction often involves logical hair-splitting and that a suggestion to introduce a new refinement in construction seems inconsistent with the general movement to simplify technical grammar by elimination of non-essentials. But just at this point one of the most serious classes of error originates; and one who has analyzed a considerable quantity of the composition errors of pupils cannot help feeling that many of the youthful sins of omission of the apostrophe are

involved in the failure to recognize the need for the genitive form where no idea of possession is involved. Such common expressions as "the day's work," "a month's pay," are prominent in the group of "apostrophe errors." Usage proportion indicates this as one of the topics that has been neglected in most technical grammars.

8. Further, in connection with the genitive, we cannot disregard the fact that school compositions betray a shrewd avoidance of the genitive form of nouns. This should not be allowed to continue. The confidence born of mastery of the troublesome apostrophe must be one of the products of school work, even if prolonged drill be necessary. There is no circumlocution that is acceptable from the point of view of clearness or brevity.

9. Two constructions—object of a preposition and the direct object—again include over 90 per cent of all nouns in the accusative case. Yet many grammars devote considerable space to most or all of nine other infrequent possibilities. Since none of the constructions involves a change of form from the "common case," there seems little justification for the time given to such exercises. The full effect of the argument must appear at a glance at Table 34, where some of the constructions are too infrequent to appear in the scale.

10. In connection with both the nominative and accusative cases of nouns we saw that school compositions betray a deficiency in the use of appositives. This is a construction too valuable in attaining a condensed style of expression to be neglected. Exercises making a larger call for mastery of this construction must be supplied in the language course. Practice in the use, even though it be artificially provided, may well take the place of the parsing of such constructions. If the troublesome comma is the cause of a conscious avoidance of this construction in pupils' writings, we have both an added reason and a more natural opportunity for practice on this rule, which will reduce its prominence as one of the leading punctuation errors.

CHAPTER VII

VERB FORMS MOST FREQUENTLY USED

Variety and Importance of Verb Forms.—Nearly every fifth word we use is some form of a verb. It was found in the analysis of all material that 19.4 per cent of all words were verbs.

In English grammar, as in that of most other languages, the verb gets the largest share of attention because of the multiplicity of forms in inflectional changes, and because of the large amount of irregularity in the conjugation forms.

On the basis of both frequency and complexity, as well as the resulting chance for error, extended treatment of this part of speech seems warranted. Some of the forms, introduced or retained for completeness, may probably be given more summary treatment than is customary, if we may apply the criterion of infrequent usage. Suggestions looking toward revision will be summed up at the close of the chapter, after the facts about usage are fully before us.

We have already noted, in Chapter V, the adult extremes in the use of verbs in relation to the total number of words. In the same connection¹ the trend in school material as to the proportionate number of verbs in the total number of words was presented.

The topics to be taken up in this chapter, both from the point of view of adult usage and the trends found in school writing, are the following:

1. The relative frequency of regular and irregular verbs.
2. Transitive, intransitive, and copulative predicates.
3. Frequency of the different persons and numbers of finite verbs.
4. Voice.
5. Mood.

¹ See page 75.

6. Tense.

7. The use of auxiliary verb forms.

Regular and Irregular Verbs.—Of the total number of words we use, verbs constitute about one-fifth, including every element in a verb phrase, as well as the predicates where a verb with any voice, mood, or tense form is involved; and also all auxiliaries and the use of “to be” in the progressive form and of “do” in the interrogative, negative, and emphatic forms, as well as such auxiliaries as “should,” “would,” etc., used to express mood ideas. The total of these forms gives us practically four verbs of some sort for every sentence. Of these, 34.4 per cent are regular and 65.6 per cent irregular.¹ The

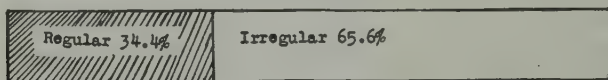


DIAGRAM XI.—Proportion of regular and irregular verbs in all material.

latter, however, include the bulk of such auxiliaries, voice, and tense forms as “to be” and “to have.” With these forms included, we have practically five irregular verbs for every two sentences. Or, stating it another way, we have about twice as many irregular as regular verbs. (See Diagram XI.) On the basis of frequency of usage, then, it seems that a great deal of attention should be given to the matter of irregular verbs, which cannot be done without a considerable basis of knowledge about the conjugation of regular verbs for comparison. The importance of irregular verbs has already been emphasized, on the basis of frequency of error, in Dr. Charters’ study.²

We may present the extremes of adult usage of both regular and irregular forms in conspectus in a single diagram,—

¹ Illustrations of regular and irregular verbs.

(a) *Regular*.—When I walk here, I think of how often he *has walked* here, and of why he *walked* here.

(b) *Irregular*.—When I go there, I think of how often he *had gone* there, and of why he *went* no more.

² Bulletin of the University of Missouri, Vol. 16, No. 2 Columbia, Mo., January, 1915. Compare *Sixteenth Yearbook of the National Society for the Study of Education*, Part I.

Diagram XII. The five greatest extremes either way are presented in succession with the adult average set off in the middle.

A glance at Diagram XII will show that the proportion of irregular verbs in the total is the largest in conversational material. The character of the material in the third and fourth items further bears out the indications from the first and

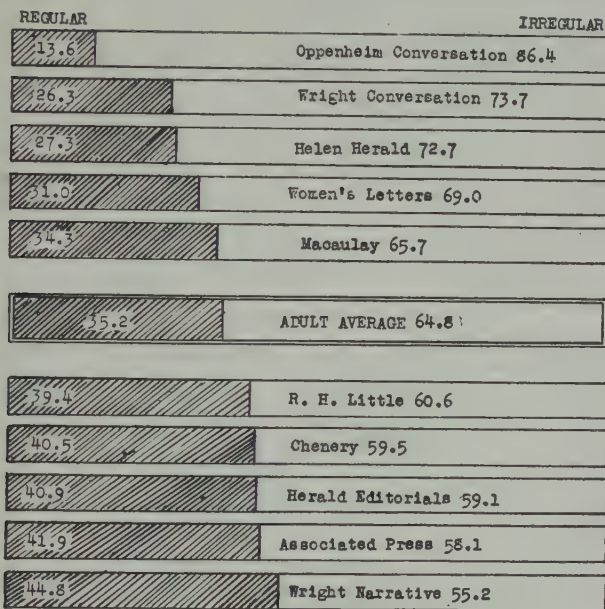


DIAGRAM XII.—Adult extremes in the use of regular and irregular verbs in terms of percentages of total number of verbs.

second. The Helen Herald material assumes a direct "chatty" style, and the "confidential" nature of the women's letters naturally leads to a familiar conversational manner in writing.

Equally striking is the fact that the newspaper material, with a large strain of narrative, tends to the opposite extreme, while the straight narrative of fiction yields the largest proportion of regular verbs.

It may be worth while to present the ratio of regular and irregular verbs per sentence. The same items of material that appear in Diagram XII are also presented in Diagram XIII, with several other adult items not included in the extremes on the basis used there.

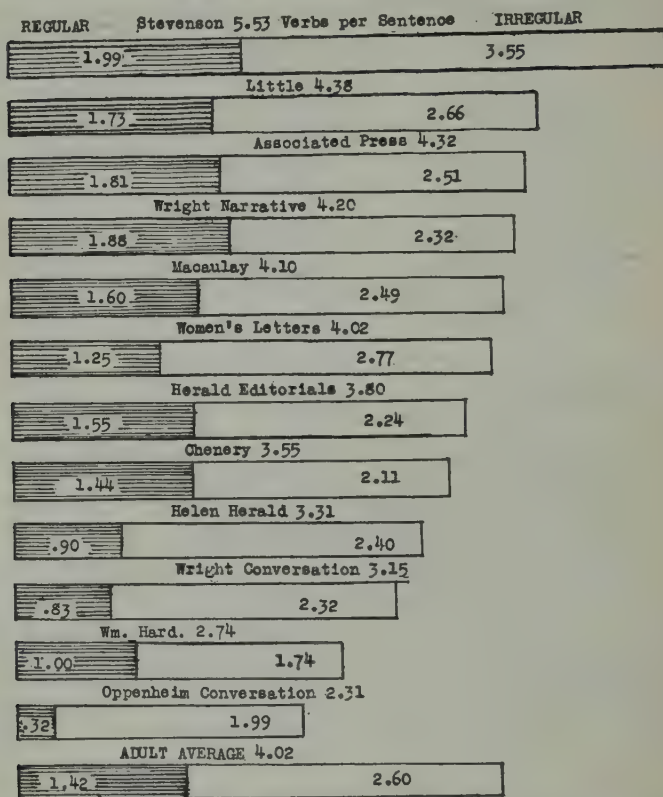


DIAGRAM XIII.—Adult extremes in the use of regular and irregular verbs in terms of ratios per sentence.

The diagrams show important facts. Stevenson, in whom is found a larger ratio of verbs per sentence than in any other writer examined, uses them in practically the same proportion as the adult average. Stevenson's regular verbs are 35.9 per cent of the total; his irregular verbs 64.1 per cent.

Practically the same proportion holds for Hard —36.5 per cent regular; 63.4 per cent irregular. In ratio of verbs per sentence Hard's material stands almost at the other extreme from Stevenson's.

Regular and Irregular Verbs in School Material.—Glancing at Table 57, which presents the variation in usage of the regular and irregular verbs in school material in different grades, we

TABLE 57.—COMPARISON OF THE DEVELOPMENT IN THE USE OF REGULAR AND IRREGULAR VERBS IN SCHOOL COMPOSITIONS IN RATIO PER SENTENCE

School level	All verbs	Regular		Irregular		Excess or deficiency on basis of adult average in ratio per sentence		
		Ratio	Per cent	Ratio	Per cent	All verbs	Regular	Irregular
Adult average.....	4.02	1.42	35	2.60	65			
University								
Upper class.....	4.35	1.31	30	3.04	70	+ .33	-.11	+.44
Freshmen.....	3.79	1.27	33	2.52	67	-.23	-.15	-.08
High school								
Seniors.....	3.85	1.27	33	2.58	67	-.17	-.15	-.02
Juniors.....	3.78	1.11	29	2.67	71	-.24	-.31	+.07
Sophomores.....	3.79	1.12	29	2.68	71	-.23	-.30	+.08
Freshmen.....	3.63	1.08	30	2.55	70	-.39	-.34	-.05
Grades								
Eighth.....	3.06	1.00	33	2.06	67	-.96	-.42	-.54
Seventh.....	2.90	.75	26	2.15	74	-1.12	-.67	-.45
Sixth.....	2.43	.80	33	1.63	67	-1.59	-.62	-.97
Fourth.....	2.53	.66	26	1.87	74	-1.49	-.76	-.73

note a slight trend from the lower to the higher levels toward a decrease in the proportion of irregular verbs in the total number of verbs used; but all school material exceeds the adult average in the *proportion* of irregular verbs used.

This fact is established only when the number of regular and irregular verbs is compared with the totals of verbs used by each class. It can be seen best in Table 57, where all the facts are brought out in conspectus. When the irregular verbs are considered alone on the basis of ratios per sentence, the trend

toward an increase in the ratio of irregular verbs per sentence is clearly seen, although the development does not appear to be so consistent when the ratios are considered relative to the total number of verbs used.

Taking the total number of verbs used per sentence, the development toward an increase is steady throughout the school period, with the adult average not attained until the university is reached. The initial ratio is about 60 per cent of the adult average in the fourth and sixth grades. (See Table 57.)

The Importance of Principal Parts.—It may be of some interest to attempt a comparison between regular and irregular verbs, if we eliminate from the latter class all those common irregular forms used in any way as auxiliaries, whether these be as voice, mood, or tense aids in verb phrases. This can be done by adding items in several of the tables used as a basis for these facts and subtracting the several totals from the total number of irregular verbs. We shall then have some indication of the relative frequency of those irregular verbs on which so much of the drill and memorization work is often placed, in the learning of the principal parts or the conjugation paradigms or synopses.

The relative proportion of such forms as "be," "was," "were," "has been," "have been," "has," "have," "had," "do," "did," "will," "shall," "should," "would," etc. can be seen in general from the total figures for all material and for the adult material.

	All irregular verbs	Auxiliaries	Other irregular verbs
In all material.....	25,494	18,206	7,288
In adult material.....	20,095	14,948	5,147

The figures for the total number of auxiliary verbs in the preceding table were derived from Table 58.

TABLE 58.—RELATIVE FREQUENCY OF THE VARIOUS AUXILIARY VERBS

	In all material	In adult material
"To be" as copulative.....	5,567	4,437
Some form of "to be" in passive voice of transitive verbs.....	5,693	4,912
Future tense, "shall" or "will".....	1,270	1,053
Present perfect tense, "have," "has".....	1,355	1,083
Past perfect, "had".....	455	377
Future perfect, "shall" or "will" and "have"—frequency of tense times 2.....	24	22
Past future, "would".....	564	445
Past future perfect, "would" and "have"—frequency of tense times 2.....	122	104
Some form of "to be" with progressives.....	747	517
"Do or did," interrogative.....	101	94
"Do or did," negative.....	408	315
"Do or did," emphatic.....	50	42
"Shall" and "will," not future.....	43	36
"Should".....	286	219
"May".....	319	292
"Might".....	114	106
"Can".....	544	457
"Could".....	285	216
"Must".....	229	194
"Ought".....	30	27
Total auxiliary verbs.....	18,206	14,948

From these figures we can calculate percentages of frequency for those irregular verbs which are usually given in grammar lists for the purpose of memorizing principal parts and for practice on paradigms. Such irregular verbs constitute 28.6 per cent of all irregular verbs in all material, and 25.1 per cent in adult material. The few auxiliary verbs are used about three times as often as all other irregular verbs put together. All the non-auxiliary irregular verbs occur about one-half as often as the regular verbs, the ratios being about 13 to 7 in all material, and 11 to 5 in adult material.

This must be understood as only a close estimate of the other irregular verbs. Slight allowances must be made for such untabulated facts as the following:

- (a) "Were," used in a few subjunctives.
- (b) Any of the common auxiliaries may be used as single finite verbs in the imperative mood; e.g., "*Do your work.*"
- (c) Similar possible uses in the infinitive for "do." The sentence, "*Be sure to do your work*" would combine b. and c.

Transitive and Intransitive Verbs.—Examining the predicate and non-modal verb forms from another point of view we find that 58.4 per cent are transitive, 20.4 per cent are intransitive complete, and the rest are copulative.¹ Of these copulative verbs, the forms of the verb "to be" constitute 18.9 per cent and other copulative verbs 2.3 per cent of the total number. Because of the importance of a discrimination between intransitive and transitive verbs in the matter of the direct object, especially in pronouns, it is evident that time spent on this classification is worth while. (See Table 59.)

TABLE 59.—SHOWING RELATIVE PROPORTION OF TRANSITIVE, INTRANSITIVE, AND COPULATIVE VERBS USED IN ALL MATERIAL

Constructions	Per cent
Transitive.....	58.4
Intransitive (complete).....	20.4
Copulative ("to be").....	18.9
Other copulative verbs.....	2.3

¹ Illustrations of transitive, intransitive, and copulative verbs.

(a) *Transitive*.—His shaft *missed* the target.

(b) *Intransitive (Complete)*.—He *sat* there in silence.

(c) *Copulative (to be)*.—If he *is* persistent he will to-day *be* safe where we were yesterday.

(d) *Other Copulative Verbs*.—He still *felt* sick, but the food *tasted* good.

In the discussion dealing with transitive and intransitive verbs it must be borne in mind that there is included a count of verbs and verb phrases used as finite predicates, and also non-modal verbs or verb phrases. This accounts for apparent discrepancies in tables and diagrams in this section and other sections dealing with verbs from the point of view of regularity, tense, person, and number.

Adult Extremes in Use of Transitive and Intransitive Verbs.—Table 60 shows the adult extremes in the use of transitive, intransitive, and copulative verb forms in terms of ratios per sentence.

The irregular changes of place with reference to excess and deficiency in comparison with the averages in Table 60 indicate that the usage is largely a matter of chance, as we cannot even generalize about the various types of prose involved.

TABLE 60.—ADULT EXTREMES IN THE USE OF TRANSITIVE, INTRANSITIVE, AND COPULATIVE VERBS IN TERMS OF RATIO PER SENTENCE

Material	Transitive	Intransitive	Copulative	
			"To be"	Others
Adult average.....	1.76	.60	.57	.07
Associated Press.....	2.11	.52	.33	.03
R. H. Little.....	2.09	.86	.56	.06
Business letters.....	2.08	.49	.50	.06
Stevenson.....	1.92	1.16	.75	.11
Local news.....	1.91	.50	.43	.04
Herald letters.....	1.89	.54	.54	.05
Women's letters.....	1.80	.55	.64	.12
Herald editorials.....	1.68	.39	.47	.06
Oppenheim conversation	1.62	.35	.45	.06
Wright narrative.....	1.60	1.29	.37	.07
Brisbane.....	1.59	.52	.36	.05
Wright conversation....	1.41	.49	.47	.03
William Hard.....	1.03	.54	.50	.05

Marked Trends in School Writing.—Perhaps one of the most interesting developments in language mastery is found in

connection with the trends in the use of transitive, intransitive, and copulative verbs in the writing of school children.

The ratio of transitive verbs per sentence may in general be said to be one-half or two-thirds of the adult standard in

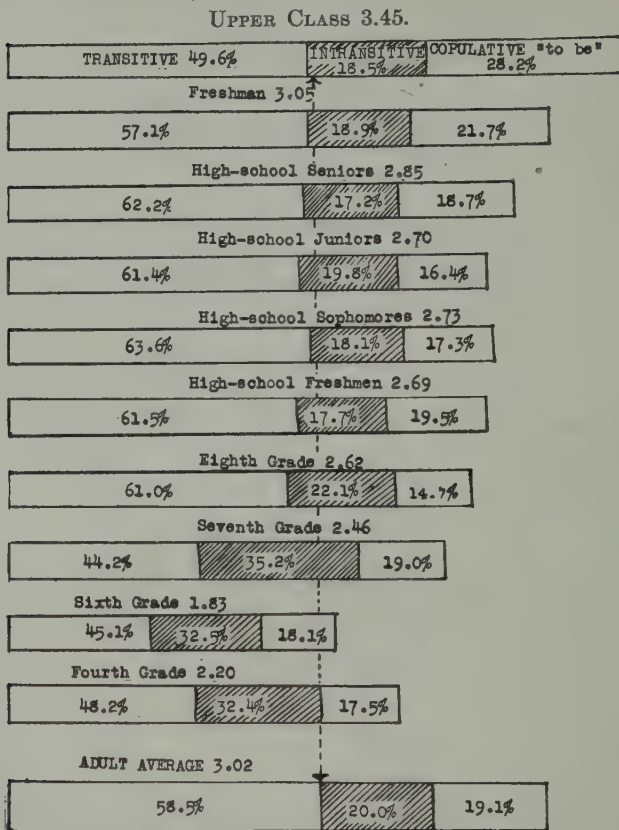


DIAGRAM XIV.—Development in the use of transitive verbs in school compositions. (The full length of the bars shows the ratios of verbs per sentence; the sections show the percentage of transitive, intransitive, and copulative verbs in each total).

the fourth, sixth, and seventh grades. This deficiency is steadily overcome as the pupil advances in high school, and nearly reaches adult average usage by the sophomore year.

From that time on there is but slight variation from the adult standard. (See Diagram XIV.)

The variation is not so pronounced or so uniform in respect to intransitive verb usage. But there is some evidence of a reciprocal relation between the use of transitive and of intransitive verbs.

In the same way we note a marked regular development in the use of the copulative verb "to be," from about two-thirds of the adult average usage in the grades to almost double the adult standard in the university upper classes. The variation in the use of other copulative verbs is irregular, and since they constitute such a small proportion of the total, are not shown in the diagram.

Applications to Language Teaching.—All phases of verb usage in the transitive, intransitive, and copulative classes are of sufficiently frequent occurrence to warrant attention in a grammar course. But the facts brought out by this consideration of usage relate to the matter of methods of teaching rather than to relative emphasis in the grammar course.

Technical grammar courses have given considerable attention to classification at this point. It seems clear that an understanding of the nature of transitive verbs, with the noun or pronoun object, especially the latter, should afford some help in avoiding errors that are rather common. This would be specially important with certain common irregular verbs that were referred to in the previous section of this chapter. Beyond these it would probably be difficult to prove any functional values for such classification exercises.

Another method is suggested in connection with developmental trends in comparison with adult usage. The deficiency in the use of transitive verbs is striking in the grades, and is hardly up to the adult standard before the close of the high school. Practice must be provided for the mastery of the correct case use of pronouns in object constructions. Abundant exercises of the sentence-completion type are perhaps the best teaching device.

A further suggestion in this connection is the need of building up language habits with pronouns in the attribute construction

after copulative verbs. While the variations from the adult average in all types of copulative verbs are irregular, it is a significant fact that throughout the grades and high school there is a considerable deficiency in the ability to use copulative verbs. In order to provide practice for the habit of correct nominative case use of pronouns in the attribute construction, special exercises should be supplied.

Usage of Active and Passive Voices.—A record was kept of the frequencies of the passive voice.¹ The active voice was then computed for each item of material, by using the totals found for tenses of finite and non-modal verbs and verb-phrases, as a basis from which the number of passives was subtracted.

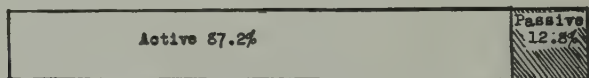


DIAGRAM XV.—Showing proportion of active and of passive voices used in all material and in adult writings.

On this calculation, 12.8 per cent of all verbs were found in the passive voice, and 87.2 per cent in the active voice. In the adult material, the proportion of passives is exactly the same. The proportions are shown in Diagram XV.

Adult Usage of Active and Passive Voice.—We find a wide range of variation in the matter of voice. In some writings we find every fourth or fifth verb in the passive voice; at the other extreme only one of every 25 verbs is in the passive. Newspaper material, whether in straight news matter or in the work of special writers, as well as the narratives of Macaulay and of Wright, make the largest use of the passive. Conversational material in fiction and the women's letters make least use of this voice. The details are shown in Table 61.

¹ Illustrations of the voice of verbs.

(a) *Active*.—He *saw* the man *take* the book and *leave*.

(b) *Passive*.—After the book *was taken*, the man *was seen* to leave the house.

TABLE 61.—VARIATIONS IN ADULT USAGE OF ACTIVE AND PASSIVE VOICES IN RATIO PER SENTENCE

Material	Active	Passive	Excess or deficiency	
			Active	Passive
Adult average.....	2.74	.40		
Stevenson.....	4.01	.40	+1.27	.00
R. H. Little.....	3.14	.44	+ .40	+ .04
Women's letters.....	3.02	.12	+ .28	— .28
Wright narrative.....	3.00	.43	+ .26	+ .03
Macaulay.....	2.42	.60	— .32	+ .20
Oppenheim conversation....	2.37	.17	— .37	— .23
Brisbane.....	2.37	.25	— .37	— .15
Wright conversation.....	2.36	.08	— .38	— .32
Associated Press.....	2.35	.86	— .39	+ .46
Local news.....	2.35	.60	— .39	+ .20
Chenery.....	2.03	.60	— .71	+ .20
William Hard.....	1.96	.19	— .78	— .21

School Usage of Active and Passive Voices.—Table 62, which shows the passive voice in relation to the active voice in school compositions, indicates the need of language exercises to develop a freer use of the passive. There is a marked deficiency in most of the grade material when compared with the adult average. Much of the high-school material shows a slight excess over the adult standard. But the fact that the university compositions again show quite a deficiency, indicates that subject matter must play some part.

The decided and regular increase in the use of the active voice must be interpreted in view of the fact that this voice constitutes at least 80 per cent of all verbs, and that the apparent development shown in Table 62 is, therefore, largely the result of increasing freedom in the use of verbs.¹

¹ Compare Diagram XIV, page 122.

TABLE 62.—DEVELOPMENT IN SCHOOL USAGE OF THE ACTIVE AND PASSIVE VOICES OF VERBS IN RATIO PER SENTENCE AND PERCENTAGES OF TOTALS

School level	Active		Passive		Excess or deficiency on basis of adult average in terms of ratios	
	Ratio	Per cent	Ratio	Per cent	Active	Passive
Adult average....	2.74	79.8	.40	20.7		
University						
Upper class.....	3.33	94.3	.20	5.7	+ .59	— .20
Freshmen.....	2.63	90.6	.27	9.4	— .11	— .13
High school						
Seniors.....	2.34	80.3	.57	19.7	— .40	+ .17
Juniors.....	2.24	80.4	.54	19.6	— .50	+ .14
Sophomores.....	2.29	81.5	.52	18.5	— .45	+ .12
Freshmen.....	2.26	81.9	.49	18.1	— .48	+ .09
Grades						
Eighth.....	2.32	92.6	.18	7.4	— .42	— .22
Seventh.....	2.47	98.2	.05	1.8	— .27	— .35
Sixth.....	1.63	86.0	.27	14.0	—1.11	— .13
Fourth.....	2.14	98.6	.03	1.4	— .60	— .37

Mood in Verbs.—Little need be said in regard to the subject of mood. The subjunctive and imperative occur so infrequently that the whole matter of variation in adult material and of development in school writing is shown by a single table for each dealing with the indicative mood.¹ Of all finite verbs only .7 of one per cent are subjunctives, and 1.3 per cent imperative.

Judging on the basis of frequency of usage alone, there is perhaps too much emphasis placed on the matter of subjunc-

¹ Illustrations of finite moods in verbs.

(a) *Indicative.*—He *saw* the man *take* the book.

(b) *Subjunctive.*—"If this *be* treason, let us make the most of it."

(c) *Imperative.*—*Tell* me, if you see him come back.

tives. It may fairly be questioned whether the distinction, which calls for the subjunctive in a few constructions, is not too subtle for the grade pupil or even the high-school pupil to comprehend. Persistent disregard for the niceties of form in adult usage may never justify a sanction of the less exact

TABLE 63.—ADULT EXTREMES IN THE USE OF INDICATIVE MOOD OF VERBS IN TERMS OF RATIO PER SENTENCE

Material	Ratio per sentence	Excess or deficiency on basis of adult average
Adult average.....	2.21	
Stevenson.....	2.95	+ .74
R. H. Little.....	2.47	+ .26
Macaulay.....	2.35	+ .14
Women's letters.....	2.25	+ .04
Associated Press.....	2.13	— .08
Local news.....	2.04	— .17
Business letters.....	1.97	— .24
Herald editorials.....	1.83	— .38
Brisbane.....	1.79	— .42
Chenery.....	1.76	— .45
William Hard.....	1.56	— .65

form. But it may be doubted whether the learning of complete paradigms for the subjunctive is the best method of developing a sense of the correct form in such a construction as a "condition contrary to fact."

In reading Tables 63 and 64 we must keep in mind the fact that the indicative mood represents 98 per cent of all verbs. The extremes in adult usage of the indicative (see Table 63), therefore, are practically determined by the respective ratios of all verbs per sentence. And what appears to be a striking development in school compositions in the increase of indicatives is really only an indication of the regular and decided development in the use of verb forms throughout the school period. Table 64, which represents the trend in school

material for the indicative mood, should be compared with Diagram XIV, page 122, which shows the developmental trend for the total of finite verbs and verb phrases used.

In school compositions we find a quite regular development in the use of verbs to about the adult average by the close of the high-school period, and some excess over this standard

TABLE 64.—DEVELOPMENT IN THE USE OF THE INDICATIVE MOOD IN SCHOOL MATERIAL

School level	Ratio per sentence	Excess or deficiency on basis of adult average
Adult average.....	2.21	
University		
Upper class.....	2.71	+ .50
Freshmen.....	2.26	+ .05
High school		
Seniors.....	2.08	— .13
Juniors.....	2.02	— .19
Sophomores.....	1.93	— .28
Freshmen.....	2.04	— .17
Grades		
Eighth.....	2.06	— .15
Seventh.....	1.96	— .25
Sixth.....	1.52	— .69
Fourth.....	1.98	— .23

in the university students' writings. (See Table 64.) Mood usage is almost entirely confined to the indicative. Practically no use is made of the subjunctive and very little of the imperative, and none below the eighth grade. It must be noted that this means the chance for a subjunctive, whether the proper form was used or not, is very slight in school composition. The apparent developmental trend in the use of the indicative shown in Table 64 must again be considered in connection with the development in the use of all verbs.

Tense of Verbs and Verb Phrases.—In the analysis a record was kept of eight tense forms. Six of these,—present, past,

future, present perfect, past perfect, and future perfect,¹—are commonly used in most grammars as the basis of paradigms and in the discussion of the meaning of tense. A few grammars add the past future and past future perfect forms, and a separate record was therefore made of these.

In all the material examined these tenses occurred in the proportions shown in Table 65.

TABLE 65.—PERCENTAGES OF VARIOUS TENSES USED IN THE TOTAL NUMBER OF VERBS AND VERB PHRASES

Tenses	Per cent
Present.....	61.1
Past.....	26.6
Present perfect.....	4.5
Future.....	4.2
Past future.....	1.8
Past perfect.....	1.5
Past future perfect.....	.1
Future perfect.....	.0

Adult Usage of Tenses.—Without exception, all adult material uses the present and past tenses for from 85 to 90 per cent of all verbs. The average (See Table 65) is about 88 per cent for these two tenses combined, and the fluctuation of the total is but slight either way.

But the range within the present tense is all the way from 28 to 80 per cent of the total, and in the past tense from 11 to 60

¹ Illustrations of tense in verbs.

(a) *Present.*—I go where he is.

(b) *Past.*—I went where he was.

(c) *Future.*—I shall go where he will be.

(d) *Present Perfect.*—I have gone where he was.

(e) *Past Perfect.*—I had gone where he was hidden.

(f) *Future Perfect.*—I shall have gone to New York before you reach here.

(g) *Past Future.*—I would go if you asked me.

(h) *Past Future Perfect.*—I would have gone if you had asked me.

per cent, with every ten percentile represented in several types of writing for both present and past tenses. This is, of course, the best indication that, so far as these two frequently used tenses are concerned, the usage is almost wholly determined by the nature of the subject-matter. Narrative prefers the past tense, to the present, in the ratio of three to one; in correspondence we find the present six to seven times to one of the past; expository writing uses the present about three times as frequently as the past tense.

The details of adult usage of these two important tenses are shown in conspectus in Table 66.

TABLE 66.—SOME EXTREMES IN ADULT USAGE OF THE PRESENT AND PAST TENSES

Material	Per cent of all verbs	
	Present	Past
Adult average.....	62.5	25.1
Lillian Russell.....	80.9	11.6
Helen Herald.....	78.1	11.8
Women's letters.....	74.8	11.6
Herald letters.....	67.9	18.6
Stevenson.....	67.7	20.6
Business letters.....	67.3	14.4
Brisbane.....	64.8	22.6
Herald editorials.....	64.1	22.7
Wright conversation.....	59.0	27.4
Oppenheim conversation.....	58.3	27.7
William Hard.....	58.1	34.9
Local News.....	50.0	35.3
Associated Press.....	40.4	45.7
Macaulay.....	34.7	50.5
Wright narrative.....	27.8	60.8

For the remaining six tenses we also find the extremest ranges possible within the narrow limits of their infrequent usage. These may be summarized by giving the adult aver-

age percentage of all verbs and the ratio per sentence, with the highest and lowest extreme deviations from these two standards.

	PERCENTAGE OF ALL VERBS	RATIO PER SENTENCE
1. Future		
Adult average.....	4.3	.14
Highest extreme—business letters.....	10.6	.34
Lowest extreme—Wright narrative.....	.0	.00
2. Present perfect		
Adult average.....	4.5	.14
Highest extreme—women's letters.....	6.0	.15
Lowest extreme—Wright narrative.....	.0	.00
3. Past perfect		
Adult average.....	1.6	.05
Highest extreme—Macaulay.....	7.4	.22
Lowest extreme—Helen Herald.....	.0	.00
4. Future perfect		
Adult average.....	.0	.00
Highest extreme—Oppenheim convers....	.3	.01
Lowest extreme—most.....	.0	.00
5. Past future		
Adult average.....	1.8	.06
Highest extreme—Wright narrative.....	3.9	.12
Lowest extreme—Lillian Russell.....	.5	.02
6. Past future perfect		
Adult average.....	.2	.01
Highest extreme—Wright convers.....	.8	.02
Lowest extreme—several.....	.0	.00

The accidents of subject-matter so evidently determine the extremes in adult usage that there is nothing to be gained from a presentation of the facts in detailed tables for the several tenses. With the establishment of the adult standards we shall be in a position to make a more detailed analysis of the variations in the writing of school children.

Variations in Tense Usage in School Compositions.—Tables 67 and 68 show the variations in school usage in the more common tenses. In general we might expect the two most common tenses, present and past, to follow the same general line of development shown for verbs, i.e. a steady increase throughout the grades and early high-school period. But

while this is true to some extent for the present tense, the character of subject matter is seen clearly to be the dominant element when we note the variations in present and past tenses, taken together, in Table 67.

TABLE 67.—RELATIVE VARIATIONS IN THE USE OF PRESENT AND PAST TENSES IN SCHOOL COMPOSITIONS

School level	Present		Past		Excess or defi- ciency on basis of adult average ratios	
	Ratio per sen- tence	Per cent of all verbs	Ratio	Per cent		
					Present	Past
Adult average.....	1.95	62.5	.79	25.1		
University						
Upper class.....	2.77	78.6	.44	12.5	+ .82	— .35
Freshmen.....	1.69	58.3	.91	31.2	— .26	+ .12
High school						
Seniors.....	1.94	66.4	.52	17.7	— .01	— .27
Juniors.....	1.83	65.5	.57	20.4	— .12	— .22
Sophomores	1.86	66.2	.50	17.9	— .09	— .29
Freshmen.....	1.76	64.1	.56	20.3	— .19	— .23
Grades						
Eighth.....	.83	33.1	1.52	60.5	—1.12	+ .73
Seventh.....	.53	21.1	1.78	70.8	—1.42	+ .99
Sixth.....	.76	40.2	1.08	57.0	—1.19	+ .29
Fourth.....	1.58	73.1	.45	20.6	— .37	— .34

Table 68 seems to show that pupils are unable to use the future tense in the grades, but after the use has once been mastered early in the high-school period, the variation becomes so irregular as to show again that the demands of subject matter control the usage.

So far as we can judge from the limited use of the present perfect tense, there appears to be a marked mastery of this form at about the beginning of the high-school period. (See Table 18.)

The remaining tenses are so infrequently used in any type of material that we have too little data from which to draw developmental conclusions. Diagrams or tables for these were therefore omitted.

TABLE 68.—VARIATIONS IN THE USE OF FUTURE AND PRESENT PERFECT TENSES IN SCHOOL COMPOSITIONS IN RATIO PER SENTENCE

School level	Future	Present Perfect	Excess or deficiency	
			Future	Present Perfect
Adult average.....	.14	.14		
University				
Upper class.....	.15	.10	+.01	-.04
Freshmen.....	.05	.18	-.09	+.04
High school				
Seniors.....	.24	.17	+.10	+.03
Juniors.....	.13	.20	-.01	+.06
Sophomores.....	.19	.16	+.05	+.02
Freshmen.....	.16	.16	+.02	+.02
Grades				
Eighth.....	.02	.03	-.12	-.11
Seventh.....	.00	.00	-.14	-.14
Sixth.....	.01	.01	-.13	-.13
Fourth.....	.05	.01	-.09	-.13

Emphasis in Teaching Tense.—Six or eight distinct forms of tense are taught when grammatical study consists in classification exercises. But both adult usage and the developmental trends in school compositions indicate that this type of work involves drill on rarely used forms, some of which are very infrequently found in pupils' every-day usage.

Frequency of usage indicates the necessity of functional drill on past tense forms. The present tense being the primitive form of a given verb, especially of those that are irregular in their principal parts, the relative importance in the teaching of this tense on the basis of frequency may be modified by the unlikelihood of error, which fact is confirmed by the studies

of errors that have been made and that will be referred to in a later chapter. On the other hand, the extreme importance of the past tense, in view of the studies of errors, is augmented by the apparent need for the frequent use of this tense.

The relative infrequency of the future tense somewhat diminishes the emphasis apparently demanded on the basis of frequency of errors. The still rarer use of "shall" and "will" in modal, or non-future uses, shown in another connection, points in the same direction.

The chance for the incorrect substitution of the past for the past perfect tense, a rhetorical subtlety, that even escapes some experienced writers, is also found too infrequently to demand any considerable emphasis in grammar courses.

Person and Number of Finite Verbs.—When we come to consider the variations in usage of person and number of finite verbs,¹ we note a further argument against memorizing exercises in conjugation. The second person, especially in the plural, is rarely used compared with the first and third persons. The distribution of all finite verbs among the three persons, both singular and plural number, is shown in Table 69.

TABLE 69.—PERCENTAGE OF FINITE VERBS FOUND IN EACH OF THE PERSONS, BOTH SINGULAR AND PLURAL NUMBER

Persons	Per cent
Third, singular.....	56.2
Third, plural.....	24.8
First, singular.....	8.5
First, plural.....	5.2
Second, singular.....	4.8
Second, plural.....	.4

¹ Illustrations of person and number in verbs.

- (a) *First Person Singular.*—I was going out to find you.
- (b) *Second Person Singular.*—You missed me by a few seconds.
- (c) *Third Person Singular.*—He sat there silently.
- (d) *First Person Plural.*—We knew he saw us.
- (e) *Second Person Plural.*—You might have gone there in a body.
- (f) *Third Person Plural.*—They saw the moon rising over the trees.

Usage of Person and Number.—Tables and diagrams were made for adult usage and for school compositions for each person and number of the finite verbs. The conclusion was evident, however, from all the data that variations in the use of person and number are so largely determined by the nature of the subject-matter that the details have been omitted. In the adult material, for example, the first person singular was in great excess in all conversational and correspondence material, while the third person was deficient in comparison with the average. In narrative and expository material there was a reciprocal excess of the third person and a deficiency of the first person. Similar, but less decided, trends were shown for the first and third persons in the plural.

Criticism of Grammar Course in View of Usage.—1. The whole subject of verbs, because of conjugational complexities, warrants extended treatment in the course in grammar.

2. Some of the forms, introduced or retained for completeness, may probably be given more summary treatment than is customary, if we may apply the criterion of infrequent usage. Labored emphasis on the subjunctive seems unwarranted, for this constitutes only seven-tenths of 1 per cent of the predicates, with about three for every two hundred sentences. The few forms most commonly used could be given attention without memorization and drill on the whole paradigm of the subjunctive mood.

3. Another matter often overdone is the uses of "shall" and "will," non-future. Popular usage seems determined to over-rule the grammatical niceties here, and, after all, there is little occasion for the quarrel. The non-future uses of "shall" and "will" occur about once in every two hundred and fifty sentences; the future tense uses constitute 4.5 per cent of all tense forms. We find a future tense only every tenth sentence, and the future perfects are very rare.

4. Emphasis on the different tense forms should not be equally distributed; the present and past forms should receive chief attention.

5. The recitation of the paradigms must have some value in fixing the proper combination of pronoun and verb forms.

But the relative infrequency of some person and number forms raises a doubt as to the value of having pupils recite the complete paradigms. While the third person singular and plural together comprise 81 per cent of all finite verbs, the second person singular comprises only 4.8 per cent of the total, and the second person plural only four-tenth of 1 per cent. A reasonable modification of the complete conjugation type of exercise would be the extension of the voice, mood, and tense formations with the person and number changes in subjects into sentences that would give a true context sense and would associate the proper syntactical combinations more naturally than is done with the customary conjugation drill.

6. Studies of errors made in school compositions have shown that one of the commonest faults is the use of the wrong form of such irregular verbs as "sit," "set," "lay," "lie" etc. In a previous section¹ it was shown that all possible irregular forms occur about one-half as often as regular verbs. It must be admitted, however, that among the irregular verbs a few are probably more frequently used than any individual regular verb. This could be demonstrated only by extended vocabulary studies. But the prominence given a few common irregular verbs in the error studies that have been made constitutes the only quantitative evidence we have relating to the matter.

The question is, therefore, not whether irregular verbs are to be given a prominent place in language work; it is rather a matter of method of attack. Shall we try to overcome the errors indirectly by having pupils memorize the principal parts of the whole list of irregular verbs, or shall we employ the method of drill on the few forms and contexts for the particular irregular verbs known to be frequently used erroneously? Is it not a problem of training the ear to the correct usage by having the right form heard in school exercises more often than the wrong form is heard in out-of-school associations?

¹ Pages 117-119.

CHAPTER VIII

THE EMPHASIS IN THE USE OF ADJECTIVES AND ADVERBS

The Use of Adjectives.—Adjectives constitute 20.9 per cent of all words and are next to nouns in importance from the point of view of frequency. (See Table 28.) Adjectives exceed verbs by a slight margin, the relative proportion of the latter in all words being 20.1 per cent. The figure given for the adjectives includes the articles, however, and this group alone constitutes 44.5 per cent of all the adjectives.

Classes of Adjectives.—The relative proportion of the various classes of adjectives¹ in all material is shown in Table 70.

TABLE 70.—RELATIVE PROPORTION OF VARIOUS CLASSES OF ADJECTIVES
IN ALL MATERIAL

Classes of adjectives	Per cent
Articles.....	44.5
Common.....	33.8
Pronominal.....	11.8
Cardinal numerals.....	4.6
Proper.....	2.7
Adjectives used as nouns.....	1.8
Ordinal numerals.....	.8

¹ Illustrations of the various classes of adjectives.

(a) *Articles.*—*The call of a former day brought an ache of regret.*

(b) *Common.*—*The large, white house was solitary because of the recent changes.*

(c) *Pronominal.*—*This man may have many ways of getting off.*

(d) *Cardinal Numerals.*—*For one day's work he got twenty silver coins.*

(e) *Proper.*—*English thoughts were tricked out in American slang.*

(f) *Adjectives Used as Nouns.*—*The blue of the sea met the white of the cliff.*

(g) *Ordinal Numerals.*—*His first plan was better; but his third attempt was more finished in execution.*

Adult Usage of Adjectives.—We have already noted,—in Chapter V, Table 28—the adult extremes in the use of adjectives in relation to the total number of words.

The ratios of adjectives per sentence in various types of adult writing are shown in Table 71. Stevenson uses fully 50 per cent more adjectives than most other writers; the newspaper material is near the average; and in conversational writing the number of adjectives used is about one-half the average.

However, since this general use of all adjectives includes such a large proportion of articles, we shall get a clearer idea of usage and development if we analyze each of the classes in turn.

TABLE 71.—ADULT USAGE OF ADJECTIVES IN RATIO PER SENTENCE AND PERCENTAGE OF ADJECTIVES IN TOTAL NUMBER OF WORDS

Material	All adjectives ratio	Percentage of adjectives in all words
Adult average.....	4.25	20.3
Macaulay.....	5.11	21.4
Stevenson.....	6.67	21.4
Wright		
narrative.....	5.50	22.3
conversation.....	1.65	13.1
Oppenheim		
narrative.....	2.80	17.2
conversation.....	2.26	16.9
Associated Press.....	4.88	21.2
Local news.....	3.85	18.4
Herald editorials.....	4.46	22.9
Brisbane.....	3.34	20.8
Herald letters.....	5.18	22.3
Helen Herald.....	4.06	22.1
R. H. Little.....	4.84	19.5
Chenery.....	4.97	24.3
Lillian Russell.....	3.84	19.4
William Hard.....	2.80	19.4
Women's letters.....	3.19	17.3
Business letters.....	4.39	20.3

The different classes of adjectives are presented in two tables.

Table 72 presents the ratios per sentence of the more important classes—the articles and the common and proper adjectives—for some of the greatest extremes, both in excess and in deficiency, in comparison with adult averages. Table 73 presents the same facts for the pronominal adjectives, the cardinal and ordinal numerals, and adjectives used as nouns.

TABLE 72.—ADULT EXTREMES IN THE USE OF ARTICLES AND COMMON AND PROPER ADJECTIVES IN RATIO PER SENTENCE

Material	Articles	Common adjectives	Proper adjectives	Excess or deficiency on basis of adult average		
				Articles	Common- adjectives	Proper adjectives
Adult average....	1.86	1.49	.12			
Wright narrative..	3.03	1.92	.04	+1.17	+.43	-.08
Local news.....	1.99	.93	.20	+ .13	-.56	+.08
R. H. Little.....	2.46	1.63	.13	+ .60	+.14	+.01
Associated Press..	2.33	1.21	.35	+ .47	-.28	+.23
Macaulay.....	3.00	1.74	.21	+1.14	+.25	+.09
Stevenson.....	2.30	2.41	.10	+ .44	+.92	-.02
William Hard.....	1.09	1.14	.08	- .77	-.35	-.04
Brisbane.....	1.48	.97	.20	- .38	-.52	+.08
Business letters...	1.73	1.46	.13	- .13	-.03	+.01
Women's letters...	.96	1.33	.02	- .90	-.16	-.10
Wright conversation...	.74	.58	.06	-1.12	-.91	-.06
Oppenheim conversation...	1.07	.74	.05	- .79	-.75	-.07

Adult Usage of Articles.—The extremes in adult usage of articles are striking. There are 18,045 articles, nearly two to every sentence. The range is wide. The extremes are found

in the same book; in the purely narrative portions of Wright's novel fully four times as many articles are used as in the conversational sections. This contrast between narrative and conversational matter is emphasized by some of the other extreme items also.

Adult Usage of Common and Proper Adjectives.—From an examination of Table 72 it is again apparent that the adjective is least used in conversational material. Of all the classes of adjectives, we usually think of the common adjectives as most affected by the personality of the writer and as one of the most important of all grammatical elements in regard to stylistic value. We are not surprised to find Macaulay, with his strain of oratorical floridness, near the top of the excess column in Table 72. We also expect Stevenson's finish and color to put him near the top. In the case of the other two writers showing an excess over the adult average in the use of common adjectives (Wright in the narrative sections, and R. H. Little's dramatic reviews) their work is easily recognized as being of a type striving for effect by "fine" writing. Business correspondence and most newspaper material avoid the use of the adjective. Straight news also is sparing in the use of the adjective, as is the editorial work of writers like Hard and Brisbane, both of whom achieve much of their stylistic effect by simplicity and staccato directness in sentence and paragraph structure.

In the matter of the use of proper adjectives it is quite apparent that subject matter has an important influence. (See Table 72.)

Other Classes of Adjectives in Adult Usage.—Table 73 presents the extremes of adult usage of the pronominal adjectives and cardinal numerals. With the exception of the striking excess in the use of such adjectives by Stevenson, nearly double the adult average, and the fact that conversational material is at the deficiency extreme, Table 73 presents no occasion for comment.

We would expect an excess of cardinal numerals in the newspaper material and business correspondence. (See Table 73.)

The ordinal numeral is found too infrequently, even in material excessive over the average, to indicate any clear tendencies even in relation to subject-matter. A record of adjectives used as nouns was kept merely to make the classification of all parts of speech complete, and with a view to showing whether the topic is of sufficient importance to warrant the attention given to it in some texts. Both of these classes involve no grammatical difficulties and occur so infrequently that we find but little reason for assigning them a place in the school course as topics needing emphasis. Tables and diagrams for these were therefore omitted.

TABLE 73.—ADULT EXTREMES IN THE USE OF PRONOMINAL ADJECTIVES AND CARDINAL NUMERALS IN TERM OF RATIOS PER SENTENCE

Material	Pronominal adjectives	Cardinal numerals	Excess or deficiency on basis of adult average	
			Pronominal adjectives	Cardinal numerals
Adult average.....	.48	.19		
Stevenson.....	.88	.16	+.40	-.03
Business letters....	.60	.31	+.12	+.12
Macaulay.....	.55	.14	+.07	-.05
Women's letters....	.46	.26	-.02	+.07
Wright narrative...	.45	.04	-.03	-.15
Associated Press...	.45	.45	-.03	+.26
R. H. Little.....	.40	.12	-.08	-.07
Local news.....	.35	.30	-.13	+.11
Brisbane.....	.34	.25	-.14	+.06
William Hard.....	.32	.10	-.16	-.09
Oppenheim conver- sation.....	.31	.05	-.17	-.14
Wright conversation	.26	.03	-.22	-.16

School Usage of Adjectives.—We have already noted in Chapter V the trend in school material as to the proportionate number of adjectives in the total number of words. It was

shown that adjectives generally stand next to nouns in importance from the point of view of frequency. The ratios of adjectives per sentence at different school levels are shown in Table 74.

TABLE 74.—VARIATIONS IN SCHOOL COMPOSITIONS IN RATIO OF ADJECTIVES PER SENTENCE AND IN PERCENTAGE OF ADJECTIVES IN TOTAL NUMBER OF WORDS

School level	Adjectives per sentence	Percentage of adjectives in all words ¹	Excess or deficiency on basis of adult average in ratios
Adult average.....	4.25	20.3	
University			
Upper class.....	4.27	19.8	+ .02
Freshmen.....	3.81	19.9	- .44
High-school			
Seniors.....	4.30	21.7	+ .05
Juniors.....	3.85	21.1	- .40
Sophomores.....	3.68	20.6	- .57
Freshmen.....	3.63	21.0	- .62
Grades			
Eighth.....	3.09	20.2	-1.16
Seventh.....	2.32	17.1	-1.93
Sixth.....	2.47	20.5	-1.78
Fourth.....	1.52	13.5	-2.73

¹ Compare Table 30, page 75. The apparent slight discrepancy between the tables is due to the fact that not every word could be classed as a "part of speech," e.g. the expletive *there* and the sign of the infinitive *to*.

While most of the school compositions at different levels employ just about as many adjectives as the average adult in proportion to the total number of words used, there is a marked deficiency of adjectives in nearly all school writing when the comparison is made on the basis of ratios of adjectives per sentence. The adult average is reached near the close of the high-school period, and the variations for the more advanced material indicate that subject matter may play a small part. The regular development in the grades and high school is marked, however. (See Table 74.)

Classes of Adjectives in School Writings.—The different classes of adjectives as they are found in school writings are presented in Tables 74-76. The first table presents the data for all adjectives.

Table 75 presents the frequencies in school usage with their ratios per sentence of the more important classes of adjectives,

TABLE 75.—VARIATIONS IN THE USE OF ARTICLES, AND COMMON AND PROPER ADJECTIVES IN SCHOOL COMPOSITIONS IN RATIO PER SENTENCE

School level	Articles	Com- mon adjec- tives	Proper adjec- tives	Excess or deficiency		
				Articles	Com- mon adjec- tives	Proper adjec- tives
Adult average....	1.86	1.49	.12			
University						
Upper class....	1.75	1.87	.01	— .11	+ .38	— .11
Freshmen.....	1.60	1.37	.04	— .26	— .12	— .08
High school						
Seniors.....	2.30	1.00	.12	+ .44	— .49	.00
Juniors.....	1.82	.99	.11	— .04	— .50	— .01
Sophomores....	1.91	.80	.13	+ .05	— .69	+ .01
Freshmen.....	1.62	1.13	.12	— .24	— .36	.00
Grades						
Eighth.....	1.41	.76	.05	— .45	— .73	— .07
Seventh.....	1.22	.69	.01	— .64	— .80	— .11
Sixth.....	1.55	.50	.03	— .31	— .99	— .09
Fourth.....	.57	.42	.02	— 1.29	— 1.07	— .10

the articles and the common and proper adjectives. Table 76 presents the same facts for the pronominal adjectives and the cardinal numerals.

In Table 75 we see the variations in the use of articles in school compositions. There is a development in their use from a decided deficiency in the grades to about the adult average after the second year of the high school. The varia-

tions are sufficiently irregular, however, to show that subject matter plays a considerable part.

Deficiencies in Common and Proper Adjectives.—The development in the use of common adjectives is quite regular and gradual. (See Table 75.) The material is all below the adult average except that from the University upper classes. The significance of this group of adjectives, as a distinctive

TABLE 76.—VARIATION IN THE USE OF PRONOMINAL ADJECTIVES AND CARDINAL NUMERALS IN SCHOOL COMPOSITIONS IN RATIO PER SENTENCE

School level	Pronominal adjectives	Cardinal numerals	Excess or deficiency	
			Pronominal adjectives	Cardinal numerals
Adult average.....	.48	.19		
University				
Upper class.....	.48	.03	.00	— .16
Freshmen.....	.64	.09	+ .16	— .10
High school				
Seniors.....	.49	.24	+ .01	+ .05
Juniors.....	.61	.22	+ .13	+ .03
Sophomores.....	.49	.28	+ .01	+ .09
Freshmen.....	.49	.17	+ .01	— .02
Grades				
Eighth.....	.31	.34	— .17	+ .15
Seventh.....	.23	.11	— .25	— .08
Sixth.....	.29	.06	— .19	— .13
Fourth.....	.22	.18	— .26	— .01

phase of language mastery, was shown in connection with their use by adults. There is, therefore, an evident need of constructive exercises to stimulate an earlier and easier control over common adjectives. Both vocabulary studies and sentence completion exercises, with possibly condensation of phrase and clause modifiers into single adjectives, are suggested as methods of overcoming the deficiency.

In adult writings it was found that the use of proper adjectives was strongly influenced by subject-matter. This is again apparent in the irregular variations in their use in school writings. (See Table 75.) But the persistent deficiency must have some significance. The avoidance of this class because of the capitalization difficulty is possible, but hardly probable, as the most reasonable substitution, a prepositional phrase, would still involve a proper noun. It is more likely that the substitution is resorted to because of spelling difficulties often involved in transforming a proper noun into a proper adjective; or the lack of practice in changing proper nouns to adjectives may be responsible.

Teaching Pronominal Adjectives.—The use of pronominal adjectives in school compositions is open to two widely variant explanations. There is a decided deficiency along this line in grade pupils' writings. Above the eighth grade there are two marked excesses, with all the rest of the material at about the adult average. (See Table 76.) This may mean merely that subject-matter is the dominant factor and possibly the only one. Or it may mean that the mastery of these forms is a valuable phase of language control. A careful consideration of the precision and variety as well as the brevity made possible by a use of pronominal adjectives would incline one to the latter explanation.

The striking excess over the adult average found in Stevenson and the examination of a few of his sentences with these facts in mind will emphasize the significance of this explanation. (See Table 73.)

For teaching purposes it is probably advisable to take this point of view and to urge that exercises should be given in the upper grades to stimulate the use of pronominal adjectives or "adjective pronouns," as many of the grammarians prefer to call them.

School Use of Numerals.—The erratic variations in school compositions in the use of cardinal numerals bears out the conclusions drawn from adult usage. The use is probably wholly determined by subject-matter. Mastery of numbers early in the grades is sufficiently complete to lead us to expect

no developmental trend in their use in expression. The ordinal numeral usage is too infrequent to show any trends. The fact that most of the school material equals or exceeds the adult average would indicate quite clearly that subject-matter is the important factor here also.

With two striking exceptions, the use of adjectives as nouns is on the deficiency side of the adult average. Since this usage, at its freest, is inconsiderable, the irregular variations are not worth analyzing, but we may say that the probability is that subject-matter is a prominent factor in determining frequency of use. The tables for the last two classes were, therefore, omitted.

Comparison of Adjectives.—A more important topic in the grammar of adjectives is comparison, especially of the irregulars.¹ This topic has always been given considerable emphasis in the text-books, and its importance has not been minimized by the studies that have been made of common errors of expression.

The distinction between the two modes of comparison for regular adjectives was not considered of sufficient importance to warrant keeping a separate record. Neither was a record kept of the frequencies with which the three degrees of regular adjectives occurred. But such a record was kept for the irregular adjectives. Indeclinable common adjectives were included in the count of regular adjectives.

Of all common adjectives 87.5 per cent are regular, and 12.5 per cent irregular. In adult material the proportion of

¹ Illustrations of regular and irregular adjectives in different degrees of comparison

(a) *Regular Positive*.—He saw the *cold* and *sullen* stare of defiance rise.

(b) *Regular Comparative*.—He knew the soul was *colder* and *more sullen* than the eye could show.

(c) *Regular Superlative*.—It was the *coldest* and *most sullen* soul of all his foes.

(d) *Irregular Positive*.—It was *bad* to go, but worse to stay.

(e) *Irregular Comparative*.—It was *bad* to go, but *worse* to stay.

(f) *Irregular Superlative*.—To show hesitation would be *worst* of all.

(g) *Indeclinable Adjectives*.—His *only* route was past the *octagonal* house.

regular adjectives is slightly larger, 88.6 per cent. In adult writing regular adjectives occur in a ratio of 1.32 per sentence and the irregular .17 per sentence. In connection with this comparison we must consider, however, that there are only a very few irregular adjectives in our English vocabulary. Also, since these few irregulars are in such common use, general development in language ability will result in a gradual increase in the use of regular adjectives.

Adult Use of the Irregular Adjectives.—A further analysis of the adult usage of the irregular adjectives is shown in Table 77. Perhaps the most important fact is the proportions in

TABLE 77.—USE OF THE DEGREES OF COMPARISON OF IRREGULAR ADJECTIVES IN ADULT MATERIAL

Degrees	Per cent
Positive.....	48.5
Comparative.....	28.2
Superlative.....	23.3

which the three degrees are used. In all the material there were 1,712 irregular adjectives. Of these 50.8 per cent were in the positive degree; 26.5 per cent in the comparative; and 22.7 per cent in the superlative. In adult material, 48.5 per cent of the irregular forms were positive, 28.2 per cent comparative, and 23.3 per cent superlative.

When we take these facts into consideration along with the proportion of irregular adjectives in the total number of adjectives used, it appears that fully 6 per cent of all adjectives used are the troublesome irregular comparatives and superlatives.

School Use of Regular and Irregular Adjectives.—Not until after the freshman year of the university do we find the adult average use of regular adjectives equalled. In the compositions of the university upper-class students we find this average slightly exceeded. (See Table 78.)

The use of irregular adjectives seems largely dependent on the demands of subject matter. (See Table 78.) The variations in comparison with the adult average are erratic. But in only two of the groups is the adult average exceeded, the

TABLE 78.—VARIATIONS IN THE USE OF REGULAR AND IRREGULAR ADJECTIVES IN SCHOOL COMPOSITIONS, IN TERMS OF RATIO PER SENTENCE AND PERCENTAGE OF EACH IN TOTAL NUMBER OF ADJECTIVES

School level	Regular		Irregular		Excess or defi- ciency compared with adult average based on ratios	
	Ratio per sen- tence	Per cent of total	Ratio	Per cent	Regular	Irregu- lar
Adult average.....	1.32	88.6	.17	11.4		
University						
Upper class.....	1.74	93.0	.14	7.0	+.42	-.03
Freshmen.....	1.03	75.2	.34	24.8	-.29	+.17
High school						
Seniors.....	.88	83.0	.17	17.0	-.44	.00
Juniors.....	.84	84.8	.14	15.2	-.48	-.03
Sophomores .....	.70	87.5	.10	12.5	-.62	-.07
Freshmen.....	.90	79.6	.23	20.4	-.42	+.06
Grades						
Eighth.....	.66	86.8	.10	13.2	-.66	-.07
Seventh.....	.63	91.3	.07	8.7	-.69	-.10
Sixth.....	.42	84.0	.08	16.0	-.90	-.09
Fourth.....	.33	78.6	.10	21.4	-.99	-.07

high-school freshmen and the university freshmen. This bears out the facts we noted in connection with adult usage. The few irregular adjectives are all words in common use and come into the child's vocabulary early.

We get a slightly different view of the matter in the second and fourth columns of the table. There the proportion of regular and irregular adjectives used at each school level is shown in relation to the combined usage in ratios of adjectives

per sentence. It is significant that in only two of the groups does the proportion of irregulars used fall below the proportion in the adult average.

The inference for teaching is plain. There are two general problems for the language course. We must have one line of work to increase the adjective vocabulary and another, probably in the nature of drill exercises, to overcome tendencies to error in connection with the small group of irregular adjectives.

Degrees of Irregular Adjectives in School Writings.—Table 79 shows the use in school compositions of the three degrees of the irregular adjectives. We may recall, in this connection, that in adult usage over six per cent of all adjectives used were the troublesome irregulars in the comparative and superlative degrees.

With the exception of two groups, the fourth grade pupils and the high-school juniors, the use of irregular adjectives in the positive degree exceeded adult usage. But with the

TABLE 79.—USE OF THE DEGREES OF COMPARISON OF IRREGULAR ADJECTIVES IN SCHOOL COMPOSITIONS

Degrees	Per cent
Positive.....	57.7
Comparative.....	22.3
Superlative.....	20.0

exception of the university material, there are so few cases involved that no reliable conclusions can be drawn. This was further shown by the erratic variations in the different percentage columns made out, but which need not be reproduced here. If any generalization is warranted, it is that there may be a tendency to avoid the difficulties involved in the use of the irregular comparatives and superlatives.

The school use of the positive degree was 57.7 per cent of all irregulars as against 48.5 per cent in adult practice; for the comparative degree the school usage was 22.3 per cent, while

adult usage was 28.2 per cent; the percentage of superlatives in school writing was 20.0, in adult usage, 23.3. The facts for school usage are shown in Table 79. This may be compared with the adult usage shown in Table 77.

Because there are relatively so few irregular adjectives involved, the trends shown for each degree of comparison have too little value to warrant their reproduction. In general it may be said that in the control of both the comparative and superlative degrees the trends move very gradually to the adult standard, which is reached at about the close of the high-school period.

Teaching the Classes of Adjectives.—We may now summarize and extend some of the implications that were made by the way in regard to the teaching of adjectives.

The most obvious conclusion is that derived from our study of the classification of adjectives. In the older textbooks, exercises in classification of articles, common and proper adjectives, pronominal adjectives (treated as adjective pronouns in some texts), and the cardinal and ordinal numerals were given a prominent place. This is probably one of the best illustrations of a tendency to systematize our grammar on classical models. The identification of none of these classes, except proper adjectives, serves any practical purpose. Inflectional difficulties are nowhere involved. Some of the classes are of infrequent occurrence, and the abandonment of the classification exercises in the more recent language texts is warranted.

The distinction between the definite and indefinite articles, and especially the alternative forms of the latter before vowel or consonant, need some attention.

A more important matter is the need for exercises to develop a freer use of common, proper, and pronominal adjectives. The extent of the deficiencies, the slow development in mastery of these forms, and their value as indicated by the data from the standard prose analyzed, have been shown in detail in connection with the discussion of each of these classes.¹

¹ See pages 144, and 145.

The implications as to method of teaching were also pointed out. The exercises in vocabulary and sentence completion are urged as a substitution for mere barren classification or parsing drill.

Teaching the Comparison of Adjectives.—The teaching of adjectives so far as comparison is concerned involves the following distinct problems:

1. Some spelling difficulties in adding the regular suffixes for comparatives and superlatives.
2. Selection as to the proper form for comparison of some adjectives,—whether the suffixes or the adverbs “more” and “most” should be used.
3. The fault of using double comparatives.
4. The mastery of the comparative and superlative forms of the irregular adjectives.

The first of these problems lies outside the field of this study.

There is no adequate basis for a reasonable attack on the second problem. More intensive studies of error will have to be made in order to reveal the adjectives that give difficulty along this line; but it is probable that the list of such adjectives is too small to warrant the laborious investigation that would need to be made. But until it is made, exercises for practice cannot be neglected. Perhaps the niceties of usage will have to be acquired by incidental contacts with good models, especially in reading.

Double comparisons are too infrequent to demand much emphasis in a language course. The general principle involved can easily be understood, and the “barbarism” is too patent to be persistent.

Teaching Irregular Comparatives and Superlatives.—The ten or twelve irregular adjectives, whose comparison is usually memorized in connection with grammar lessons, involve the use of a few common comparatives and superlatives which are responsible for a fairly important group of errors.

This is probably another type of error that could be more successfully combated by training the ear to proper contextual relations than by the mere memorizing of a table of compari-

sons. Drill exercises involving the proper contexts for comparatives and superlatives, like "worse" and "worst," "better" and "best," "more" and "most," "less" and "least," will prove most effective in developing an understanding of the practical value of these forms, and will give a feeling for the proper word to use.

The Use of Adverbs.—Adverbs constitute one of the more important groups of words from the point of view of frequency, but their use involves so little modification in form to meet the needs of syntax that they do not require to be emphasized in the school course. However, it may be of some value to compare their treatment in grammar text books with our criteria of use and need.

In the 10,000 sentences examined there were 13,263 adverbs, a ratio of 1.33 per sentence. Of these, 11,826, practically 89 per cent, were common adverbs, as distinguished from conjunctive adverbs,¹ of which there were 1,437.

On the basis of the estimated total number of words, we found² that 6.6 per cent of all words were adverbs, this part of speech ranking sixth in the list of eight on the basis of frequency of use.

There are only three topics we need to take up in connection with adverbs: (1) the frequency of common adverbs in adult and school usage; (2) the use of conjunctive adverbs; and (3) the problems involved in the comparison of irregular adverbs.

Examining Table 80 we find both Stevenson and Macaulay on the excess side of the average. On the other hand, the greatest deficiency appears in the practical material, the Associated Press dispatches and the Business Letters. Conversational material is also on the deficiency side of the average. Table 80 gives the data for all adverbs.

The analysis of values should rather be based on the relative uses of common and conjunctive adverbs considered separately. This is shown in Table 81.

¹ Illustrations of classes of adverbs.

(a) *Common*.—He *quickly* rose and left the room, *defiantly* silent.

(b) *Conjunctive*.—He fell *where* he was shot.

² See Table 27.

The Frequency of Common and Conjunctive Adverbs.—We have already noted—in Chapter V—the adult extremes in the use of adverbs in the total number of words.

TABLE 80.—ADULT EXTREMES IN THE USE OF ADVERBS IN RATIO PER SENTENCE

Material	Ratio of adverbs per sentence	Excess or defi- ciency compared with adult average
Adult average.....	1.39	
Stevenson.....	2.28	+ .89
Women's letters.....	1.67	+ .28
Wright narrative.....	1.60	+ .21
Macaulay.....	1.40	+ .01
Herald editorials.....	1.36	— .03
Herald letters.....	1.22	— .17
Wright conversation.....	1.20	— .19
Oppenheim conversation.....	1.08	— .31
William Hard.....	.94	— .45
Associated Press.....	.93	— .46
Business letters.....	.77	— .62

In Table 81 we see the extreme variations in different adult writings in the use of common and conjunctive adverbs in terms of ratio per sentence. The average adult usage of common adverbs is 1.24 per sentence. There is quite a wide range in individual usage, with excess in the more literary material and women's letters, and a deficiency in the more practical every-day writings. Stevenson uses nearly twice the adult average, while in business letters there is about one-half the average number of adverbs.

In the matter of conjunctive adverbs, the adult average usage is fifteen to one-hundred sentences. Stevenson and the women's letters use about 50 per cent in excess of this number, while in several of the writers we find only from one-half to one-third of the average usage. (See Table 81.)

TABLE 81.—ADULT USAGE OF COMMON AND OF CONJUNCTIVE ADVERBS
IN RATIO PER SENTENCE

Material	Common adverbs	Conjunctive ad- verbs	Excess or deficiency on basis of adult average	
			Common adverbs	Conjunctive ad- verbs
Adult average.....	1.24	.15		
Stevenson.....	2.05	.24	+.81	+.09
R. H. Little.....	1.61	.08	+.37	-.07
Women's letters.....	1.45	.23	+.21	+.08
Wright narrative.....	1.40	.19	+.16	+.04
Macaulay.....	1.29	.10	+.05	-.05
Herald editorials.....	1.26	.06	+.02	-.09
Wright conversation....	1.15	.05	-.09	-.10
Herald letters.....	1.14	.08	-.10	-.07
Oppenheim conversation	1.01	.07	-.23	-.08
Associated Press.....	.86	.07	-.38	-.08
William Hard.....	.82	.12	-.42	-.03
Business letters.....	.64	.12	-.60	-.03

Adult Use of Irregular Adverbs.—Since the positive form of irregular adverbs gives no occasion for error, no inflectional form being involved, no separate record was kept of the irregular adverbs except in the comparative and superlative degrees.¹ These inflected forms are used very infrequently. In adult material the average frequency for the comparative degree was about three to one-hundred sentences. A few extreme variations were found on the excess side. Stevenson uses about eight in every hundred sentences, and in the Herald editorials five are found to each hundred sentences.

¹ Illustrations of irregular adverbs.

(a) *Irregular Comparative.*—He was *better* prepared, but did it *worse* than his brother had done.

(b) *Irregular Superlative.*—He was the *best* prepared, but did it *worst* of all the school.

In the superlative degree, the adult average shows two to every hundred sentences, and we find only a slight excess over this average in the writings of a few men. Stevenson again exceeds the average adult usage, with four to one-hundred sentences; and Macaulay and Hard each use three irregular superlatives in one-hundred sentences.

The usage may be seen readily by a glance at Table 82.

TABLE 82.—ADULT USAGE OF IRREGULAR ADVERBS IN THE COMPARATIVE AND SUPERLATIVE DEGREES IN RATIO PER SENTENCE

	Irregular comparatives, ratio	Irregular superlatives, ratio
Adult average .....	.03	.02
Stevenson.....	.08	.04
Herald editorials.....	.05	.02
Macaulay.....	.03	.03
Herald letters.....	.03	.02
Business letters.....	.02	.01
Associated Press.....	.01	.01
Wright narrative.....	.02	.00
Wm. Hard.....	.02	.03
Brisbane.....	.02	.01
Oppenheim conversation.....	.01	.00
Wright conversation.....	.00	.00

Common and Conjunctive Adverbs in School Compositions.—

In Chapter V, Table 30, the trend in school compositions as to the proportionate number of adverbs in the total number of words was referred to.

We do not find the adult average attained in the use of common adverbs in any of the grades or high-school years; but university students exceed the average. The variations are irregular, however, with the lowest ratio a little over one-half the adult average. (See Table 83.)

School usage of conjunctive adverbs shows greater extreme variations. (See Table 83.) The average usage is equalled or exceeded even in some of the grade compositions, and the

whole range of school writings shows that the use of the conjunctive adverb is probably determined more by the nature of the subject matter than by the school level reached by the writer.

TABLE 83.—DEVELOPMENT IN THE USE OF COMMON AND CONJUNCTIVE ADVERBS IN SCHOOL COMPOSITIONS IN RATIOS PER SENTENCE

School level	Common adverbs	Conjunctive adverbs	Excess or deficiency on basis of adult average	
			Common adverbs	Conjunctive adverbs
Adult average.....	1.24	.15		
University				
Upper class.....	1.60	.38	+.36	+.23
Freshmen.....	1.29	.13	+.05	-.02
High school				
Seniors.....	1.16	.10	-.08	-.05
Juniors.....	.92	.11	-.32	-.04
Sophomores.....	.96	.11	-.28	-.04
Freshmen.....	1.06	.08	-.18	-.07
Grades				
Eighth.....	.76	.13	-.48	-.02
Seventh.....	.93	.21	-.31	+.06
Sixth.....	.70	.15	-.54	.00
Fourth.....	.79	.09	-.45	-.06

Irregular Adverbs in School Compositions.—Tables are unnecessary to present the simple facts about the use in school writings of the comparative and superlative degrees of irregular adverbs. A separate record of these forms was not kept for the university upper-class or the eighth grade material. In all the rest of the school material, only thirty-three irregular adverbs were found in the comparative and forty-three in the superlative degree. The use of such forms, which often results in errors in composition, is very rare in

high-school and grade work. Over one-half of the above total—twenty cases—in the comparatives, and about one-third of the total—fifteen cases—in the superlatives, were in university freshman compositions. We have already noted the infrequency of these irregular forms in the adult material. Of all common adverbs 2.5 per cent were irregular comparatives, and 1.8 per cent irregular superlatives.

The Teaching of Adverbs.—Infrequent usage and the fact that few inflectional difficulties are involved in the use of adverbs make this part of speech one of the least important in the language course.

The only evidence we have from the analysis of usage that offers a constructive suggestion is the need of some work to stimulate an easier use of adverbs in school writings. The deficiency in comparison with adult standards was shown to be striking. The excess over the adult average in the best standard prose analyzed suggests the value of increasing the pupils' control over the use of adverbs.

The irregular adverbs are found too infrequently to demand much attention. The frequencies found were very largely connected with the use of "more," "most," and "less," as modifiers of adjectives or other adverbs. Their use involves little chance for error.

CHAPTER IX

THE FREQUENCY OF MINOR PARTS OF SPEECH

The Use of Prepositions.—There are three minor parts of speech that have not been taken up separately,—prepositions, conjunctions, and interjections.

The first of these has been discussed to some extent in Chapter IV in connection with prepositional phrases. Because the record was kept of these phrases, and because practically all of the problems connected with this part of speech are involved in the phrase construction, the prepositions as such require little additional discussion. The frequencies of prepositions, their proportion in the total number of words and ratios per sentence, in both adult and school usage, were dealt with in the above connection.

Use of Wrong Prepositions.—One matter concerning the teaching of prepositions remains to be noticed here.

Whatever chance for error there is in connection with the prepositional phrases lies, not in difficulties of construction, but in diction faults in the use of wrong or superfluous prepositions. The total number of prepositional phrases, or their ratio per sentence, has no direct bearing on this matter, since only a few of the many prepositions that can be used are commonly subject to incorrect use. Further investigation in the matter of usage of prepositions would seem to lie in the direction of tabulating the frequencies of those prepositions often used incorrectly. That such a study in diction habits would be worth while is shown by the fact that even in the university upper-class compositions we find the use of the wrong preposition to be one of the most persistent errors.

The Infrequent Use of Interjections.—Interjections may also be disposed of very briefly.

We have already noted, in Chapter V, the infrequent use of interjections in relation to the total number of words in adult writings. In the same connection the trend in school material as to the proportionate number of interjections in the total number of words was presented.

The conclusion is evident, that this part of speech occurs so seldom that it would get no notice in language work if it were not for a special requirement in punctuation. But even the use of the exclamation point is often optional.

The fact that occasion for this rule does not arise before the high-school years should properly relegate its discussion to the later rhetoric and composition courses.

Use of Conjunctions.—In Chapter V, pp. 72 and 73, data were presented showing the adult extremes in the use of conjunctions in relation to the total number of words. In the same connection, pp. 75 and 76, the trend in school material as to the proportionate number of conjunctions in the total number of words was presented.

We may now glance at the distribution of the use of conjunctions in adult writings among the three classes. Reference to Table 84 will show that fully three-fourths of the conjunctions are co-ordinate, about one-fifth subordinate, and about one-twentieth correlative.¹

TABLE 84.—ADULT USE OF DIFFERENT CLASSES OF CONJUNCTIONS

Classes of conjunctions	Per cent
Coordinate.....	76.6
Subordinate.....	19.6
Correlative.....	3.7

Adult usage of conjunctions shows a wide range at the extremes. (See Table 85.) Stevenson uses twice as many as

¹ Illustrations of classes of conjunctions.

(a) *Co-ordinate*.—John and Charles walked, *but* the rest rode.

(b) *Subordinate*.—They got out *when* they arrived.

(c) *Correlative*.—*Either* he is sick, *or* he has met with some accident.

the adult average. His masterly use of the compound and complex-compound sentence has already been referred to in Chapter II. At the other extreme, we find the fiction writers and Brisbane using about two-thirds of the adult average.

TABLE 85.—ADULT EXTREMES IN THE USE OF CONJUNCTIONS

Material	Ratio per sentence	Excess or deficiency based on adult average
Adult average.....	1.07	
Stevenson.....	2.17	+1.10
Macaulay.....	1.38	+ .31
Wright narrative.....	1.12	+ .05
Women's letters.....	1.03	— .04
Business letters.....	1.00	— .07
Herald editorials.....	.86	— .21
Associated Press.....	.83	— .24
William Hard.....	.80	— .27
Brisbane.....	.65	— .42
Wright conversation.....	.64	— .43
Oppenheim conversation.....	.60	— .47

Classes of Conjunctions in Adult Usage.—The variations in adult use of the three classes of conjunctions are shown in Table 86. Stevenson's use of double the adult average holds true for both the co-ordinate and the subordinate groups, but in the use of correlatives he is exceeded by the balanced style of Macaulay, who ranks second in the other two classes, but in these he is considerably below Stevenson. The conversational passages in Wright and Oppenheim are approximately at one-half the adult average in the use of co-ordinate conjunctions but quite near the average in the use of subordinates.

Aside from the extremes—Macaulay, Stevenson, and the business letters on the excess side, and Brisbane and Hard on the deficiency side—there is probably little significance to be attached to the facts presented in Table 86, as far as adult use of correlatives is concerned.

TABLE 86.—ADULT USE OF VARIOUS CLASSES OF CONJUNCTIONS IN TERMS OF RATIO PER SENTENCE

Material	Co-or- dinate	Sub- ordi- nate	Corre- lative	Excess or deficiency based on adult average		
				Co-or- dinate	Sub- ordinate	Correl- ative
Adult average.....	.82	.21	.04			
Stevenson.....	1.66	.44	.07	+.84	+.23	+.03
Macaulay.....	1.05	.24	.08	+.23	+.03	+.04
Wright narrative.....	.89	.20	.02	+.07	-.01	-.02
Women's letters.....	.86	.15	.02	+.04	-.06	-.02
William Hard.....	.73	.07	.00	-.09	-.14	-.04
Business letters.....	.72	.21	.07	-.10	.00	+.03
Herald editorials.....	.62	.19	.05	-.20	-.02	+.01
Associated Press.....	.62	.18	.04	-.20	-.03	.00
Brisbane.....	.49	.16	.00	-.33	-.05	-.04
Wright conversation....	.45	.18	.01	-.37	-.03	-.03
Oppenheim conversation	.38	.20	.02	-.44	-.01	-.02

Deficiency of Conjunctions in School Writings.—Perhaps the most significant fact in connection with the matter of conjunctions is the consistent deficiency in the school compositions. This is not in accord with the common observation of the “and” fault in the speech of children, and the common violation of sentence unity by combining two or more complete sentences into one. But it must be borne in mind that the number of co-ordinate conjunctions also includes the connectives between co-ordinate members within clauses, such as compound subjects, predicates, and modifiers. It is more likely that the deficiency in conjunctions in school writings lies here. The question involves values that would warrant a more detailed analysis along these lines, both of adult practice and school usage.

The facts about school usage are shown in Tables 87 and 88. In Table 87 it appears that, so far as all conjunctions

are concerned, only the university students come near attaining the adult average usage. With the exception of the extreme deficiency in the sixth-grade material, we may say that, in general, grade pupils use about two-thirds the adult average number of conjunctions, and high-school pupils about four-fifths.

TABLE 87.—USE OF CONJUNCTIONS IN SCHOOL COMPOSITIONS IN TERMS OF RATIO PER SENTENCE

School level	Ratio per sentence	Excess or deficiency based on adult average
Adult average.....	1.07	
University		
Upper class.....	.99	— .08
Freshmen.....	1.07	.00
High school		
Seniors.....	.94	— .13
Juniors.....	.84	— .23
Sophomores.....	.81	— .26
Freshmen.....	.93	— .14
Grades		
Eighth.....	.62	— .45
Seventh.....	.68	— .39
Sixth.....	.37	— .70
Fourth.....	.71	— .36

In the matter of co-ordinate conjunctions there is evidence of a rather regular development, although the freest use of this part of speech on the part of any school group is still considerably on the deficiency side. (See Table 88.)

The variations from the adult average are quite erratic in the matter of subordinate conjunctions, and several of the groups above the grades exceed the adult average. (See Table 88.)

As it stands, Table 88 shows quite a regular development in the use of correlative conjunctions. But there are too

few cases involved in any of the school groups to make this apparent development highly significant.

TABLE 88.—USE OF VARIOUS CLASSES OF CONJUNCTIONS IN SCHOOL COMPOSITIONS IN RATIO PER SENTENCE

School level	Co-ordinate	Sub-ordinate	Correl-ative	Excess or deficiency based on adult average		
				Co-or-dinate	Subor-dinate	Correl-ative
Adult average.....	.82	.21	.04			
University						
Upper class.....	.74	.19	.05	-.08	-.02	+.01
Freshmen.....	.67	.34	.06	-.15	+.13	+.02
High school						
Seniors.....	.67	.22	.04	-.15	+.01	.00
Juniors.....	.64	.17	.03	-.18	-.04	-.01
Sophomores .....	.56	.24	.02	-.26	+.03	-.02
Freshmen.....	.64	.27	.02	-.18	+.06	-.02
Grades						
Eighth.....	.47	.13	.02	-.35	-.08	-.02
Seventh.....	.53	.15	.00	-.29	-.06	-.04
Sixth.....	.28	.09	.00	-.54	-.12	-.04
Fourth.....	.60	.11	.00	-.22	-.10	-.04

The Teaching of Conjunctions.—We find striking evidence of the value of a real mastery of conjunctions. This is true for all three classes,—co-ordinate, subordinate, and correlative. Our basis for this is the usage in the best prose that was analyzed.

We also find striking evidence of a deficiency in the use of conjunctions in school writings, notably in the matter of co-ordinate conjunctions.

On the basis of our common observation and experience, it will probably be necessary to continue correcting the “and” error in oral composition work, and the faults in sentence unity due to compounding sentences.

But on the constructive side, it must be admitted that the evidence calls for a freer control of conjunctions, even the co-ordinates. If we recognize the common faults mentioned above in regard to certain excessive uses, it appears all the more important to develop control of such conjunctions in connection with parallel subject, predicate, object, and modifier elements within clauses. Special exercises for the mastery of such series will at the same time furnish opportunity for overcoming the error in the use of the comma in a series, which is one of the most common mistakes in punctuation.

CHAPTER X

THE RELATION BETWEEN USE AND ERROR IN LANGUAGE COURSES

Supplementary Error Studies Made.—While the chief purpose of the present study has been to establish the relative importance of the various topics in grammar on the basis of usage, such a study would not be complete without comparing the results reached with the results of studies of errors in grammatical usage. With this end in view, some supplementary studies have been made, as follows:—

1. All the school compositions that were analyzed for frequencies of use, except those of the fourth grade, were examined also for errors, so that we have a study of errors in a body of material ranging from that of university upper-class and freshmen students, through the four years of high school, and the three upper grades of the elementary school.

2. Because of the wide range of this material it will be possible to present comparisons showing variations or persistency in the various types of error for a wider field of school work than has been shown in any single previous study of errors.

3. Comparisons were made with some of these earlier error studies, and an attempt was made to relate the frequencies of error to frequencies of use, by means of "error quotients."

Error Studies Compared.—The present study deals with 288 separate compositions, containing 3,150 sentences, with a total of about 58,196 words.

In order to make the study comparable with that of other studies in error and at the same time related to the study of usage, the categories of error used in the studies of Charters

and Miller,¹ Lyman,² and Johnson,³ were followed in the main, especially that common to the two last named, with such modifications as would adapt them to the material and the purposes outlined above.

Guide List of Errors Used.—On the pages next following is given the "Guide List of Errors," (see Table 89) with the numerical and literal designations which are used for convenience in presenting the tabulation of errors.

TABLE 89.—GUIDE LIST OF ERRORS

- I. *Mistakes in the case of pronouns:*
 1. Subject or object of verb in wrong case. "She saw my brother and I."
 - (a) Subject in wrong case.
 - (b) Object in wrong case.
 2. Predicate nominative in wrong case. "I do not know *whom* he is."
 3. Object of preposition in wrong case. "They called to my friend and I."
 4. Use of objective for possessive with gerund. "It was all the result of that *cat crossing* my path."
- II. *Other misuses of pronouns:*
 5. Disagreement of pronoun and antecedent. "A person can find what *they* look for."
 6. *You* used indefinitely. "When you start to high school *you* feel important."
 7. Miscellaneous misuses of the pronoun. "A lady *which* . . ." etc.
- III. *Mistakes in the use of verbs:*
 8. Disagreement of verb and subject. "On the bank *was* some water lilies.
 - (a) General violation.
 - (b) Wrong number of verb with expletive "there."
 9. Change of tense in main clause.

¹ "A Course of Study in Grammar," by W. W. Charters and Edith Miller, the *University of Missouri Bulletin*, Vol. 16, No. 2, "Education Series 9."

² "Fluency, Accuracy, and General Excellence in English Composition," by R. L. Lyman, *The School Review*, Vol. XXVI, No. 2, Feb., 1918, pp. 85-100.

³ "The Persistency of Error in English Composition," by Roy Ivan Johnson, *The School Review*, Vol. XXV, No. 8, Oct., 1917, pp. 555-580.

10. Wrong past tense or past participle. "We had *drank*."
 - (a) Wrong form in past tense.
 - (b) Wrong form in past participle.
11. Wrong verb used. "I will *lay* down."
12. Mistakes in mood. "He acted as though he *was* the king's son."
- IV. *Mistakes in the use of adjectives and adverbs:*
 13. Use of adjective for adverb. "He spoke *respectful*."
 14. Use of *most* for *almost*. "I go *most* every time."
 15. *Only* misplaced in the sentence. "I *only* had one lesson to study."
 16. The use of the double negative. "There *wasn't hardly* room for me."
 17. Miscellaneous misuses of adjectives and adverbs. "It was a very *healthy* food."
- V. *Mistakes in the use of prepositions and conjunctions:*
 18. Use of wrong or superfluous preposition. "He got off of the car."
 - (a) Wrong preposition.
 - (b) Superfluous preposition.
 19. Use of wrong conjunction. "The reason was *because* . . ."
 20. Misuse of *like*. "It looks *like* he wasn't coming."
- VI. *Ungrammatical sentence structure:*
 21. Incomplete sentence.
 22. Failure to make new sentence for new thought.
 23. Miscellaneous mistakes in sentence structure.
 - (a) Subject omitted.
 - (b) Miscellaneous redundancy, especially *have got*.
 - (c) Noun clause *that* repeated.
 - (d) Unclassified mistakes in sentence structure.
- VII. *Failure to express clear meaning:*
 24. Ambiguity due to indefinite pronominal reference. "He had to eat olives with the Smith girls although he didn't like *them*."
 25. Awkward, "wordy," or complicated phrasing.
 26. Other cases of failure to express clear meaning. "Her mother cooked a dozen eggs and *twice as much* bacon."
 - (a) Careless substitution of one word for another.
 - (b) Mistakes in idiom.
 - (c) "Dangling" participle.
 - (d) Wrong tense sequence.
 - (e) Meaningless "etc."
 - (f) False diction.

VIII. *Mistakes in punctuation:*

27. Period omitted.
 - (a) At the end of a sentence.
 - (b) After titles.
 - (c) After abbreviations.
28. Members of series not separated.
29. Independent clauses of compound sentences not separated.
30. No punctuation after introductory expression. "Well how are you?"
31. Name of city and state written without punctuation. Kansas City Missouri.
32. Miscellaneous mistakes in punctuation.
 - (a) Comma setting off a dependent clause out of its natural order.
 - (b) Comma before or after appositive.
 - (c) Comma before, after, or in broken, quotations.
 - (d) Non-restrictive clauses not set off.
 - (e) Use of unnecessary comma.
 - (f) Comma for clearness, especially with participial and parenthetical elements.
 - (g) Interrogation mark omitted after interrogative sentence.
 - (h) Miscellaneous mistakes especially involving colon, semi-colon, and exclamation marks.

IX. *Mistakes in the use of the apostrophe:*

33. Failure to distinguish between "it's" (it is) and "its" (possessive). "The bird will not do *it's* best, singing if *its* a cloudy day.
34. Wrong form of possessive nouns. "There was a sale of *ladie's* dresses."
 - (a) Omitted in possessive case.
 - (b) Wrong form in possessive case.
35. *O'clock* written without an apostrophe.
36. Miscellaneous misuses of the apostrophe. "I dont know."

X. *Mistakes in capitalization:*

37. Failure to use capital letter.
 - (a) At the beginning of a sentence.
 - (b) At the beginning of a quotation.
 - (c) Beginning proper nouns or adjectives.
38. Improper use of capital letters.

XI. *Careless omission or repetition:*

39. Omission of word or phrase.
40. Omission of letter or syllable.
41. Repetition of syllables, words, or phrases.

XII. *Mistakes in spelling:*

42. Compound words incorrectly written.
 - (a) Hyphen omitted.

- (b) Compound words otherwise incorrectly written.
- 43. Misspelling of *to*, *too*, and *two*.
- 44. Misspelling of *their* and *there*.
- 45. Other misspelled words.
- XIII. 46. *Misuse of quotation marks*.
- XIV. 47. *Miscellaneous errors*:
 - (a) Grammatical.
 - (b) Rhetorical.

For the sake of convenience in comparison with other studies, the device of giving error categories the group numbers and the individual numbers used in the Lyman and the Johnson studies is followed. In the tables following, the categories are given in such a way that all the Roman numerals correspond to the same groups of error as in the Lyman and the Johnson studies. Similarly, the main divisions of these larger groups, designated by Arabic figures, again correspond. But the subdivisions of these, designated by letters, do not appear in the other studies. Most of these subdivisions were introduced for the sake of making possible a more detailed comparison of errors with the chances for error, or the frequencies of usage.

Summary Tabulation of Errors Found.—The original tabulations showed for each of the school classes and the categories of error: (1) the number of errors, (2) the frequencies of use, or chances for error, where these could be determined, and (3) the error quotients derived by dividing the number of errors by the number of chances.

But of the 74 separate categories it was found possible to compute or count the chances for error in only 33 of the items in the list.

Since the tables are too extended and cumbersome to be reproduced in their original form, and since the majority of the items would be blank in the "chance" and "error quotient" columns, it will, perhaps, be more feasible to present the error tabulations first and then the data about "error quotients."

The actual number of errors found are shown in Tables 90a, 90b, 90c. The first (90a) shows the errors in the main groups I to V, the second (90b) in groups VI to VIII, and the third (90c) in groups IX to XIV of the list given in Table 89.

TABLE 90a.—FREQUENCY OF ERRORS IN SCHOOL COMPOSITIONS

Items	University		High school				Grades			Totals ¹
	Upper class	Fresh-men	XII	XI	X	IX	VIII	VII	VI	
I.										
1.	0	2	1	0	0	1	0	1	0	5
(a)	0	0	1	0	0	0	0	0	0	1
(b)	0	2	0	0	0	1	0	1	0	4
2.	0	2	0	0	0	0	0	0	0	2
3.	1	0	0	0	0	0	0	1	0	2
4.	2	0	1	0	0	1	0	0	0	4
Totals.....	3	4	2	0	0	2	0	2	0	13
II.										
5.	23	3	3	4	0	2	1	1	0	37
6.	5	3	1	3	2	0	0	0	2	16
7.	2	3	1	0	1	0	1	1	2	11
Totals.....	30	9	5	7	3	2	2	2	4	64
III.										
8.	21	8	7	9	7	7	0	2	1	62
(a)	19	7	4	6	5	7	0	1	0	49
(b)	2	1	3	3	2	0	0	1	1	13
9.	1	1	1	0	0	2	4	2	1	12
10.	0	2	0	0	0	1	2	0	4	9
(a)	0	2	0	0	0	1	1	0	0	4
(b)	0	0	0	0	0	0	1	0	4	5
11.	1	1	0	0	0	0	1	3	2	8
12.	5	2	0	0	0	2	1	2	0	12
Totals.....	28	14	8	9	7	12	8	9	8	103
IV.										
13.	2	3	1	0	0	3	1	2	0	12
14.	3	1	0	0	0	0	0	0	0	4
15.	3	0	1	0	2	0	0	1	2	9
16.	1	0	0	0	0	0	1	0	0	2
17.	1	2	0	1	0	1	2	0	2	9
Totals.....	10	6	2	1	2	4	4	3	4	36
V.										
18.	26	11	3	7	4	4	9	13	11	88
(a)	25	9	3	4	3	4	8	13	11	80
(b)	1	2	0	3	1	0	1	0	0	8
19.	9	2	2	2	0	1	10	8	2	36
20.	0	0	0	0	0	0	0	0	1	1
Totals.....	35	13	5	9	4	5	19	21	14	125

¹ There is an apparent discrepancy in many of the "totals." This is due to the fact that all figures opposite the letters (a) (b), etc. are added to make the number opposite the Arabic figures under which they stand. The "totals" are derived by adding the horizontal rows, not the vertical columns.

TABLE 90b.—FREQUENCY OF ERRORS IN SCHOOL COMPOSITIONS

Items	University		High school				Grades			Totals
	Upper class	Freshmen	XII	XI	X	IX	VIII	VII	VI	
VI.										
21.	3	2	1	1	0	2	2	2	1	14
22.	17	4	3	2	5	5	0	3	2	41
23.	12	2	0	6	4	2	1	1	0	28
(a)	3	1	0	2	2	0	1	0	0	9
(b)	5	0	0	2	0	1	0	0	0	8
(c)	1	1	0	2	0	1	0	0	0	5
(d)	3	0	0	0	2	0	0	1	0	6
Totals.....	32	8	4	9	9	9	3	6	3	83
VII.										
24.	9	2	3	4	8	6	6	3	15	56
25.	34	6	6	10	7	7	10	3	4	87
26.	82	29	30	18	18	25	22	7	9	240
(a)	16	7	11	10	5	4	6	4	5	68
(b)	19	1	3	0	2	4	3	0	0	32
(c)	1	0	0	0	0	0	0	0	0	1
(d)	1	1	1	1	3	1	0	0	0	8
(e)	16	0	0	1	2	1	0	0	0	20
(f)	29	20	15	6	6	15	13	3	4	111
Totals.....	125	37	39	32	33	38	38	13	28	383
VIII.										
27.	24	5	5	12	3	8	3	12	9	81
(a)	17	5	4	3	2	3	3	12	9	58
(b)	1	0	0	7	0	0	0	0	0	8
(c)	6	0	1	2	1	5	0	0	0	15
28.	43	13	6	17	10	7	4	1	2	103
29.	102	54	28	32	38	46	26	17	6	349
30.	26	10	1	0	6	1	3	1	1	49
31.	0	1	0	1	1	2	1	0	0	6
32.	316	149	97	67	89	95	94	54	57	1018
(a)	80	50	23	13	16	25	19	27	9	262
(b)	7	2	1	2	8	1	9	2	4	36
(c)	2	1	3	3	1	2	5	0	0	17
(d)	25	13	5	3	5	11	7	10	12	91
(e)	40	17	16	8	12	10	10	7	16	136
(f)	117	60	37	34	43	39	32	5	9	376
(g)	0	0	3	0	0	0	3	0	0	6
(h)	45	6	9	4	4	7	9	3	7	94
Totals.....	511	232	137	129	147	159	131	85	75	1,606

TABLE 90C.—FREQUENCY OF ERRORS IN SCHOOL COMPOSITIONS

Items	University		High-school				Grades			Totals
	Upper class	Fresh-men	XII	XI	X	IX	VIII	VII	VI	
IX.										
33.	2	0	0	0	1	3	1	0	2	9
34.	11	9	5	5	3	3	5	6	3	50
(a)	6	9	5	3	3	3	4	4	3	40
(b)	5	0	0	2	0	0	1	2	0	10
35.	0	0	0	0	3	0	0	0	0	3
36.	6	0	0	1	3	1	1	0	0	12
Totals.....	19	9	5	6	10	7	7	6	5	74
X.										
37.	4	9	6	5	19	5	17	9	16	90
(a)	1	4	0	0	1	1	6	5	12	30
(b)	0	1	1	1	1	0	4	1	0	9
(c)	3	4	5	4	17	4	7	3	4	51
38.	1	6	13	15	33	17	4	3	4	96
Totals.....	5	15	19	20	52	22	21	12	20	186
XI.										
39.	22	7	14	12	15	14	6	2	2	94
40.	8	10	3	8	12	10	2	2	3	58
41.	6	2	1	1	3	1	3	2	0	19
Totals.....	36	19	18	21	30	25	11	6	5	171
XII.										
42.	63	29	14	12	10	8	13	22	12	183
(a)	56	25	11	8	10	7	10	7	5	139
(b)	7	4	3	4	0	1	3	15	7	44
43.	2	0	1	2	1	1	1	0	0	8
44.	1	0	1	2	2	2	1	1	0	10
45.	33	55	21	35	39	51	43	19	31	327
Totals.....	99	84	37	51	52	62	58	42	43	528
XIII.										
46.	3	5	1	4	1	0	3	1	1	19
XIV.										
47.	2	10	5	6	8	7	6	11	7	62
(a)	1	7	5	6	6	7	6	11	5	54
(b)	1	3	0	0	2	0	0	0	2	8
Grand totals	938	465	287	304	358	354	311	219	217	3,453

Totals for Error Groups.—The tabulation of errors has been presented so that totals are shown for each of the categories at the right of Tables 90a, 90b, 90c. and the totals are also shown for each general group, which are again footed up in such a way as to show the grand total of errors for each school level.

It may be stated here in a general way, in regard to the totals in Tables 90, 90a, 90b, and 90c, that the number of errors in the different general categories, when ranked for the various school levels that were comparable with the other studies of errors correlate from nearly $+ .7$ to nearly $+ .9$. This tends to bear out the claim made by Charters and Miller, and Johnson also, that a relatively small amount of written

TABLE 91.—RANK OF ERROR GROUPS ACCORDING TO FREQUENCY

Error group	University upper class		University freshmen		High-school seniors		High-school juniors		High-school sophomores	
	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank
I	3	12.5	4	14	2	12.5	0	14	0	14
II	30	7	9	9.5	5	8.5	7	9	3	11
III	28	8	14	6	8	6	9	7	7	9
IV	10	10	6	12	2	12.5	1	13	2	12
V	35	5	13	7	5	8.5	9	7	4	10
VI	32	6	8	11	4	11	9	7	9	7
VII	125	2	37	3	39	2	32	3	33	4
VIII	511	1	232	1	137	1	129	1	147	1
IX	19	9	9	9.5	5	8.5	6	10.5	10	6
X	5	11	15	5	19	4	20	5	52	2.5
XI	36	4	19	4	18	5	21	4	30	5
XII	99	3	84	2	37	3	51	2	52	2.5
XIII	3	12.5	5	13	1	14	4	12	1	13
XIV	2	14	10	8	5	8.5	6	10.5	8	8
Total.....	938	....	465	....	287	....	304	....	358	
No. of themes.	49		40		33		31		31	
Sentences.....	1,000		500		250		250		250	
Words.....	21,518		9,548		4,954		4,510		4,445	

TABLE 91.—(Continued)

Error group	High-school freshmen		8th grade		7th grade		6th grade		Totals	
	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank
I	2	12.5	0	14	2	12.5	0	14	13	14
II	2	12.5	2	13	2	12.5	4	10.5	64	10
III	12	6	8	7	9	7	8	6	103	7
IV	4	11	4	10	3	11	4	10.5	36	12
V	5	10	19	5	21	3	14	5	125	6
VI	9	7	3	11.5	6	9	3	12	83	8
VII	38	3	38	3	13	4	28	3	383	3
VIII	159	1	131	1	85	1	75	1	1,606	1
IX	7	8.5	7	8	6	9	5	8.5	74	9
X	22	5	21	4	12	5	20	4	186	4
XI	25	4	11	6	6	9	5	8.5	171	5
XII	62	2	58	2	42	2	43	2	528	2
XIII	0	14	3	11.5	1	14	1	13	19	13
XIV	7	8.5	6	9	11	6	7	7	62	11
	354	....	311	....	219	....	217	....	3,453	
No. of themes....	39		25		20		20		288	
Sentences.....	250		250		220		200		3,150	
Words.....	4,314		3,804		2,704		2,399		58,196	

material will give quite an accurate index of the relative importance of the various errors for any particular group.¹

The total results of judging the importance of the various types of error by the ranking method is presented in Table 91, for each of the school levels and for the totals taken from the last column of Table 90. The comparisons of some of these rankings with comparable groups in the other studies are presented in Table 92, and in connection with this the various coefficients of correlation are given.

¹ In an elaborate investigation of the errors of the sixth and seventh grades of the Kansas City Schools, Charters and Miller collected all the material in the form of written exercises handed in by the pupils during one month. After the study was completed, however, they stated that a single paper of 150 words from each pupil would have been sufficient to determine dependable conclusions. (University of Missouri Bulletin, Vol. 16, No. 2 Education Series, 9.)

Error Quotients.—The chances for error and, consequently, the error quotients could neither be tallied nor derived from the tables of frequency in a number of the error categories. In a few cases, perhaps, some explanation as to the omission in the "chances" column ought to be given.

Categories 7, 9, 11, 12, 13, 16, 17, 18a, 18b, 19, 20, 22, 23a-d, 24, 25, 26a-f, 32h, 38, 39, 40, 41, 42b, 47a, and 47b, it is apparent, were not subject to record in the "chance" column. (See Table 89 for names of categories.)

The chances for category 8a, "Disagreement of Verb and Subject," might have been presented by giving the total number of predicates from the "frequency of use" tables, but evidently this would have been an unreasonable exaggeration from a practical point of view. The chances for category 23a, "Subject of Sentence Omitted," might similarly have been presented, but this again would seem to be unreasonable.

The chances for category 5, "Disagreement between Pronoun and Its Antecedent," and for "Failure to Use a Capital at the Beginning of a Quotation," 37b, could have been tallied, but were overlooked in planning the tables at the beginning of the work.

The chances for 45, "Mispelled Words," might have been entered as the total number of words, but again this appears unreasonable. An alternative would have been to go through all the material again after the list of errors had been secured, and then record the frequency with which these particular words occurred either in the work of any given group or in the work of the individual who made the error. This would have been quite outside the scope of a study in grammar errors and usage.

Comparison with the Johnson and the Lyman Studies.—As a result of the limitations in getting "chances" for a number of the errors, the results of the investigation are not as satisfactory as might have been desired for purposes of comparison.

However, we may approach the matter of comparisons with the other studies, first by comparing the results of Table 91 on the basis of the ranks of the various error groups, with

similar ranks made in the Lyman and the Johnson studies. This is done by presenting the totals for each error group and for each school level in Table 91, and then by selecting those columns of Table 91 for comparison with the totals and ranks of similar school levels presented in the other studies. These are then shown in Table 92.

Johnson presents the results on error tabulation of the freshmen in four Kansas City high schools, comprising 132 exercises with 50,371 words, and 66 exercises of freshmen of the Kansas City Junior College, comprising 32,693 words. Lyman's study presents an error tabulation for 322 high-school freshmen exercises, comprising 59,516 words. Four high schools were included, New Trier (at Winnetka, Ill.) Bloomington, Ill., University of Chicago High, and Vinton, Iowa. The material in the present study compared with this is from the Freeport, Ill., high school, and from the University of Illinois freshmen.

TABLE 92.—SHOWING COMPARISON OF NUMBER OF ERRORS IN DIFFERENT GROUPS FOR COLLEGE AND HIGH-SCHOOL FRESHMEN AND RANKS OF ERROR GROUPS IN THE THREE STUDIES

Error group	Kansas City high-school freshmen		Lyman's study of high-school freshmen		Freeport high-school freshmen		Kansas City college freshmen		University of Illinois freshmen	
	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank
I	11	14	26	14	2	12.5	2	14	4	14
II	102	7	101	9	2	12.5	40	6	9	9.5
III	93	8	132	8	12	6	32	7.5	14	6
IV	52	10	64	12	4	11	28	9	6	12
V	50	11	84	11	5	10	24	10	13	7
VI	220	4	378	3	9	7	32	7.5	8	11
VII	46	12	214	5	38	3	17	12	37	3
VIII	232	2	1,283	1	159	1	100	3	232	1
IX	150	6	94	10	7	8.5	75	5	9	9.5
X	196	5	180	7	22	5	120	2	15	5
XI	223	3	283	4	25	4	77	4	19	4
XII	675	1	569	2	62	2	208	1	84	2
XIII	25	13	38	13	0	14	9	13	5	13
XIV	85	9	203	6	7	8.5	23	11	10	8
Totals.....	2,160	..	3,649	..	354	....	787	..	465	

The number of themes and running words involved in the material of the Freeport high-school freshmen is so small a part of the whole number in the present study that further comparisons may have only limited significance.

However, we may mention some details:

1. Punctuation ranks first in all schools in the Lyman study and in the present study. Spelling ranks highest in number of errors in the Kansas City study. There would not be much significance in the ranking of the freshmen in this study if it were not for the fact that this category of error gets first rank by a big margin at every school level, as shown by Table 91. The punctuation errors are from two to five times as great as the number of spelling mistakes at different school levels. The total punctuation errors for all the high-school pupils in this study are three times the number of mistakes in spelling. In general the same excess is shown in the tables of all of the four high schools studied by Lyman.

Correlations of the Different Studies.—Table 92 presents these various comparable groups in contiguous columns, with the corresponding ranks for each of the main categories of error.

In the high-school freshmen group there are three comparable columns. The correlations may be of some interest:

For the high-school freshmen the coefficients of correlation follow:

Johnson's study and Lyman's, $+ .80$

Lyman's study and the present study, $+ .88$

Johnson's study and the present study, $+ .69$

For the college freshmen we have the correlation between Johnson's study and the present one, $+ .68$

The totals of the present study and Lyman's totals have a correlation of $+ .84$

The totals of the present study and Johnson's high-school totals have a correlation of $+ .69$.

The correlation between the ranks of error groups for the grade totals of this study and Charters and Miller's study of errors in grade written material is $+ .61$.

Persistency of Errors at Various School Levels.—We may at this point make a further study of Tables 91 and 92 for the purpose of tracing the developmental phase, or what may be designated as the relative persistency of various types of error at the various school levels. Category VIII, "Mistakes in Punctuation," holds first place in the ranking through all school levels. Category XII, "Mistakes in Spelling," holds second or third place throughout. Category VII, "Failure to Express Clear Meaning," which is third in the totals, holds second or third place at all levels except with the high-school sophomores and the seventh grade, and is fourth in rank in these. The group ranking fourth in the totals, No. X, "Mistakes in Capitalization," quite consistently holds fourth or fifth place throughout, until the University upper-class level is reached, when it drops to eleventh place.

It is a striking fact that among the three leading error groups we are not dealing with distinctively grammatical elements, although a number of the rules for punctuation, the worst group in the matter of error, involves several grammatical applications.

We might trace all of the categories through as we have done, but we would find practically the same persistency in ranking, with possibly a single exception, category XIV. In the number of miscellaneous grammatical and rhetorical errors, which constitute a small part of the total, there is a general improvement from lower to higher levels

Ratio of Errors to Number of Words.—Perhaps the matter ought to be approached from a different point of view in order to reveal the true situation. The material representing the different groups varies considerably in bulk, as can be seen by the number of themes, sentences, and words given at the bottom of the columns in Table 91. It will be proper to reduce the total of errors at the foot of these columns to the number of errors per sentence and the ratio of errors to number of words. This is done in Table 93.

The ratio of errors to the number of sentences may perhaps be represented more clearly by reading the ratios given above on the basis of ten sentences, as, University upper classes

and freshmen made nine errors in every ten sentences, the High-school seniors eleven errors in every ten sentences, and so on. While these ratios show no great variation and no distinct trend in the overcoming of errors, the second column, the ratio of errors to number of words, does show this development very decidedly. The latter, no doubt, is the more serviceable representation of facts.

TABLE 93.—NUMBER OF ERRORS PER SENTENCE AND THE RATIO OF ERRORS TO THE NUMBER OF WORDS FOR DIFFERENT SCHOOL LEVELS

	Errors per sentence	Ratio of errors to words
1. University upper class.....	.9	1:22.9
2. University freshmen.....	.9	1:20.3
3. High-school seniors.....	1.1	1:20.7
4. High-school juniors.....	1.2	1:14.8
5. High-school sophomores.....	1.4	1:12.4
6. High-school freshmen.....	1.4	1:12.2
7. Eighth grade.....	1.2	1:12.4
8. Seventh grade.....	1.1	1:12.4
9. Sixth grade.....	1.1	1:11.5

When we take the developmental control of error for the different levels of school into consideration with the fact that the ranks in the various categories of error are practically constant, we reach the conclusion in connection with the whole matter of composition errors, that, *while there are practically twice as many errors at the lower school level as at the upper, the fact is explained by improvement from year to year in all the various categories, rather than by the elimination of any particular types of error.*

Tables 90 and 91 may again be scanned with this principle in mind. It is perhaps best to take some of the more common errors and read the error-frequencies for the different school levels, either from left to right, or from right to left. Category VIII, the one on punctuation, presents the best field

for such an examination, and it readily appears that the above principle holds true in practically every one of the subdivisions.

Comparison with Charters' Studies.—The first important study of grammatical errors was made by Dr. W. W. Charters, then Dean of the Faculty of Education at the University of Missouri, and Edith Miller, Teacher of English at the Soldan High School, St. Louis. The results of their study were first published in "The University of Missouri Bulletin," Vol. 16, No. 2, under the title "A Course of Study in Grammar, Based upon the Grammatical Errors of School Children of Kansas City, Missouri." The Bulletin was published in January, 1915.

The reason given for undertaking the study is stated in the opening paragraph, as follows: "Certain criticisms are urged persistently against the course of study in grammar in the upper grades of the elementary school. The most prominent of these bases its claims upon the theory that the function of grammar in the grades is to serve as an aid to correct oral and written expression, and asserts that many of the rules of grammar taught are not broken by children and ought not, therefore, to be included in the course of study" (page 3).

The purpose of the Charters-Miller investigation was "to find (1) what errors in the use of oral and written language forms violating rules of grammar, were made by the children of the Kansas City elementary schools, (2) what rules in grammar were necessary in order to include and understand these items, and (3) what items in the present course of study in Kansas City were included but unnecessary, and what items should be included but were omitted" (page 3).

The authors declare that their "purpose is merely to indicate how closely the Kansas City course of study corresponds to one constructed upon the basis of errors." The practical value of the results was immediately recognized as having more than mere local significance, especially when an extension of the method of the study of grammatical errors was undertaken in a number of other cities, which confirmed the general conclusions of the original study, without adding anything of significance to the original list of essentials and non-essen-

tials. The authors recognized the need of approaching the problem from other points of view and by other methods, for they said,—“It is neither claimed nor asserted in this study that a course of study in grammar should be based exclusively upon errors. Other methods of selection are frequently advocated, and the relative validity needs to be investigated with care.”

Comparison of Results.—As a basis for the comparison of the results of this study in the errors found in the grade material with that of the Charters-Miller investigation, two of their summary tables, designated by them as “Table A” and “Table E,” with some explanatory quotations to make clear the meaning of the tables are reproduced in the following pages.

“In Table A, . . . the results of the tabulations are summed up. On the left is a statement of the errors . . . Next, to the right, is found the total number of errors reported by all the teachers, and on the extreme right is given the percentage of errors approximated to the nearest integer and obtained by dividing the numbers in the ‘total errors’ column by 6,000 instead of 5,883,”¹

“The percentage column [Table A] has some interesting figures. The largest single item, 24 per cent, is the confusion of the past tense and the past participle. This comprises one quarter of the errors reported. The next largest 14 per cent, is the failure of the verb to agree with its subject in person and number. The errors in the use of the verb (errors number 8 to 13) constitute 57 per cent of the total errors. Mistakes in the use of case, particularly in pronouns, (errors number 1 to 3) comprise 7 per cent of the total. The confusions of the adjective forms with each other and with the adverb (errors number 14, 15 and 17), total 5 per cent. Double negatives occur in 11 per cent of the errors, and syntactical redundance (error number 20) includes 10 per cent. When to these there is added 3 per cent for the confusion of the demonstrative adjective with the personal pronoun, the

¹ Op. cit., page 9.

remainder of the errors are scattering. The narrow limits of the field are striking."¹

"TABLE A."¹—THE WORKING LIST FOR ORAL ERRORS USED BY THE TABULATORS AND THE NUMBER AND PER CENT OF EACH KIND OF ERROR

Error	Total errors	Per cent error
1. Subject of verb not in nominative case.....	253	4
2. Predicate nominative not in nominative case.....	118	2
3. Object of verb or preposition not in objective case..	85	1
4. Wrong form of noun or pronoun.....	106	2
5. First personal pronoun standing first in series.....	108	2
6. Failure of the pronoun to agree with its noun in number, person and gender.....	20	0
7. Confusion of demonstrative adjective and personal pronoun.....	190	3
8. Failure of verb to agree with its subject in number and person.....	831	14
9. Confusion of past and present tenses.....	93	2
10. Confusion of past tense and past participle.....	1,426	24
11. Wrong tense form.....	294	5
12. Wrong verb.....	732	12
13. Incorrect use of mood.....	20	0
14. Incorrect comparison of adjectives.....	38	1
15. Confusion of comparatives and superlatives.....	9	0
16. Confusion of adjectives and adverbs.....	263	4
17. Misplaced modifier.....	17	0
18. Double negative.....	632	11
19. Confusion of preposition and conjunction.....	14	0
20. Syntactical redundance.....	593	10
21. Wrong part of speech due to similarity of sound....	41	1

¹ From the Charters-Miller investigation.

"In Table E . . . are found all the classes of oral errors listed in Table A and some additional errors caused by failure to handle such mechanics of writing as punctuation. The omission of one or two items from the oral errors is evidently

¹ Charters-Miller, *Op. cit.*, page 11.

"TABLE E."¹—THE WORKING LIST OF WRITTEN ERRORS USED BY TABULATORS AND THE NUMBER AND PERCENTAGE OF EACH KIND OF ERRORS

Error	Totals	Per cent	Per cent of first 21
1. Subject of verb not in nominative case.....	42	0	1
2. Predicate nominative not in nominative case.....	49	0	1
3. Object of verb or preposition not in objective case.....	48	0	1
4. Wrong form of noun or pronoun.....	655	5	16
5. First personal pronoun standing first in a series.....	25	0	1
6. Disagreement of noun and pronoun in number, person and gender.....	162	1	4
7. Confusion of demonstrative adjective and personal pronoun.....	3	0	0
8. Failure of verb to agree with its subject in number and person.....	753	6	19
9. Confusion of past and present tenses.....	474	4	12
10. Confusion of past tense and past participle	188	2	5
11. Wrong tense forms.....	198	2	5
12. Wrong verb.....	265	2	7
13. Incorrect use of mood.....	61	0	2
14. Incorrect comparison of adjectives.....	12	0	0
15. Confusion of comparatives and superlatives.	8	0	0
16. Confusion of adjectives and adverbs.....	253	2	6
17. Misplaced modifier.....	225	2	6
18. Double negative.....	58	0	1
19. Confusion of prepositions and conjunctions.	53	0	1
20. Syntactical redundancy.....	467	4	11
21. Wrong part of speech due to similarity of sound.....	1,334	11	
22. Failure to put period at end of statement...	3,600	30	
23. Failure to put question mark at end of question.....	208	2	
24. Failure to put apostrophe to denote possession.....	744	6	
25. Omission of subject.....	313	3	
26. Omission of predicate.....	297	2	
27. Confusion of dependent and independent clauses.....	1,059	9	

¹ From the Charters-Miller investigation.

due to the failure to have stenographic reports of oral speech. For instance, it is obvious that children, in talking, confuse dependent and independent clauses, but no such errors were reported by the teachers, who, intent upon errors in the use of parts of speech and hurried by school duties in jotting down the errors, paid little attention to the longer clauses. Errors due to faulty sentence structure, unless particularly flagrant, are likely to escape the attention until seen in cold print.

"In Table E, the errors, the numbers on the left, the illustrations, and the totals are self-explanatory. The left hand percentage list takes into account all errors tabulated and shows the errors of punctuation to be the most frequent. The right hand list shows the relative percentages of those items which are listed under oral errors in Tables A, C, and D."¹ (Only the first is used here.)

Comparable Error Groups.—With the Charters-Miller study we have points of comparison for twenty-two of the twenty-seven error categories in their "Table E." These are all practically identical. To facilitate comparison the numbered error groups of their study with their respective percentages, the ranks of the total errors, the equivalent categories of the present study, and new designations for the groups are given in Table 94. These comparable groups are then further compared in Table 95.

The correlation of the ranks with those of the Charters-Miller study is high. As has been previously noted, Charters and Miller placed a high measure of reliability in a comparatively small body of material. Their opinion may be quoted in full in this connection.

"All the types of error tabulated were found in the first school studied; and consequently, when other schools were studied, the only change in the tabulation that occurred was in the relative percentages of error among the different classes. The study of the last half dozen schools did not affect the results and served chiefly as a check upon the work.

¹ Op. cit., page 17.

"The total number of pages read was 4,619. It is the opinion of the tabulators that if another study of the same kind were being undertaken in a city with 5,000 children or more in the

TABLE 94.—COMPARABLE ERROR GROUPS

Type of error in Charters- Miller list (see Table, p. 183)	Per cent of total errors	Rank of actual • totals	Corresponding error categories in this study (see pp. 166 to 169)	New designations for comparable groups
1	0	23		
2	0	21	I. 1, 2, 3	A
3	0	22		
4	5	6		
5	0	24		
6	1	17	II. 5	B
7	0	27		
8	6	4	III. 8, a, b	C
9	4	7		
10	2	16	III. 9, 10, 11,	D
11	2	15		
12	2	11		
13	0	18	III. 12	E
14	0	25		
15	0	26		
16	0	12	IV. 13, 14, 17	F
17	2	13	IV. 15	G
18	0	19	IV. 16	H
19	0	20		
20	4	8		
21	11	2	{ XII. 43, 44 } { VII. 26a }	I
22	30	1	VIII. 27a	J
23	2	14	VIII. 32g	K
24	6	5	IX. 33, 34	L
25	3	9	VI. 23a	M
26	2	10	VI. 21	N
27	9	3		

grades, it would be sufficient, in order to study written 'school errors,' to collect from each pupil one paper of approximately

150 words in length, original in theme and natural and free in expression. This would, probably, be true also of a school system of as few as 2,000 children."¹

It is unfortunate that the principle of "error quotients" cannot be applied for all the comparable groups in Table 95. Yet the variation in the ranks of certain of the important

TABLE 95.—COMPARISON OF COMPARABLE GROUPS

	Total no. of errors in these categories in this study for these grades	Total chances for same	Error quotients	Rank on no. of errors	Rank on error quotients	Charters-Miller totals for the same groups	Rank for preceding column	Rank for column I
A	2	823	0.2	6	6	139	12	11.5
B	2	X	X	...	..	162	11	11.5
C	3	X	X	...	..	753	4	8.5
D	19	X	X	...	..	1,125	3	2
E	3	X	X	...	..	61	13	8.5
F	7	X	X	...	..	273	8	5
G	3	10	30.0	4.5	3	225	9	8.5
H	1	X	X	...	..	58	14	13.5
I	18	X	X	...	...	1,334	2	3
J	24	642	3.7	1	4	3,600	1	1
K	3	8	37.5	4.5	2	208	10	8.5
L	17	41	41.5	2	1	744	5	4
M	1	X	X	...	..	313	6	13.5
N	5	650	0.8	3	5	297	7	6
Totals.....	108	...	....	...	..	9,292		

errors, notably that which ranks first in most of the error studies, seems worth noting. The omission of the period at the end of a sentence drops to fourth place on this principle. The omission of the apostrophe to denote possession shows up as an error that is made in 41.5 per cent of the chances, and the interrogation mark is omitted in 37.5 per cent of the chances. The period error has dropped to 3.7 per cent of the chances. There seems to be rather striking evidence on this basis that the two former are errors due to incomplete training, while the last may be set down as a matter of simple carelessness. To remedy the latter difficulty, we would

¹ Op. cit., pages 16, 17.

adopt an entirely different method from that which we would employ to overcome errors due to inadequate or wrong training.

The Use of Error Quotients.—At this point it will be proper to refer to Table 90 and present in brief the results of the attempt to establish "error quotients." The limitations of this method, due to the fact that chances for error could not be determined for many of the categories, have already been pointed out.¹ The data made available where "error quotients" could be derived may be summarized as a basis for showing the need of some method of weighting the actual number of errors found.

Some of the error quotients based on the totals may be presented first and then a few illustrations may be shown as typical of developmental trends.

In Group I, Mistakes in the Case of Pronouns, the figures are as follows:

	Errors	Chances	Error quotient
1. Subject or object of verb in wrong case.	5	4,480	.001
(a) Subject in wrong case.....	1	3,790	.0003
(b) Object in wrong case.....	4	690	.006
2. Predicate nominative in wrong case...	2	89	.022
3. Object of preposition in wrong case...	2	509	.004
4. Use of objective for possessive with gerund.....	4	9	.444
Total.....	13	5,087	.003

We may interpret these figures by saying that in school compositions pupils will put the subject or object of a verb in the wrong case once out of 1,000 chances. They will put the object in the wrong case form six times out of 1,000 chances. The predicate nominative will be put in the wrong case twice in 100 chances. The wrong case will be used with the gerund four times in every ten chances. Some mistake

¹ See page 175.

in the case form of pronouns will be made three times for every 1,000 chances.

In Group II but one error quotient could be computed.

	Errors	Chances	Error quotient
6. "You" used indefinitely.....	16	41	.390

In Group III it was possible to establish a quotient for three of the items.

	Errors	Chances	Error quotient
8. (b) Wrong number of verb with ex-pletive "there".....	13	172	.076
10. (a) Wrong form in past tense.....	4	1,649	.002
10. (b) Wrong form in past participle...	5	119	.042

In Group IV two items can be compared for the relation of error and use.

	Errors	Chances	Error quotients
14. Use of "most" for "almost".....	4	18	.222
15. "Only" misplaced in the sentence...	9	38	.237

In Group V no computations could be made.

In Group VI:

	Errors	Chances	Error quotient
21. Incomplete sentence.....	14	3,150	.004

Errors and Chances in Punctuation.—Group VIII, "Mistakes in Punctuation," has been shown to be one of the most important in the error studies. The results for all errors found in the composition are shown in full in Table 90. In the second and third columns, chances and error quotients could not be determined for items marked with an "X."

TABLE 96.—ERROR QUOTIENTS IN PUNCTUATION

Item	Errors	Chances	Error quotients
27. No period.....	96	3,229	.030
(a) At end of declarative sentence...	58	3,110	.019
(b) After titles.....	23	119	.193
(c) After abbreviations.....	15	102	.147
28. Members of series not separated ...	103	290	.492
29. Independent clauses of compound sentence not separated.....	349	604	.578
30. No punctuation after introductory expression.....	49	107	.458
31. Name of city and state written without punctuation.....	6	10	.6
32. Miscellaneous mistakes in punctuation.....	1,018	X	X
(a) Comma, dependent clause out of natural order.....	262	403	.65
(b) Comma before or after appositive	36	X	X
(c) Comma before, after, or in broken, quotations.....	17	38	.447
(d) Non-restrictive clause not set off	91	184	.495
(e) Use of unnecessary comma.....	136	X	X
(f) Comma for clearness, especially with participial and parenthetical elements.....	376	X	X
(g) Interrogation mark omitted.....	7	27	.259
(h) Miscellaneous mistakes.....	94	X	X

In Group IX, Mistakes in the "Use of the Apostrophe," we find error quotients for the following items:

	Errors	Chances	Error quotient
33. Failure to distinguish between "it's" (it is) and "its" (possessive).....	9	31	.29
34. Wrong form of possessive nouns.....	50	117	.427
(a) Omitted in possessive case.....	40	X	X
(b) Wrong form of possessive case...	10	X	X
35. "O'clock" written without apostrophe.....	3	13	.231
36. Miscellaneous misuses of apostrophe	12	57	.211

In Group X, "Mistakes in Capitalization:"

	Errors	Chances	Error quotient
37. Failure to use capital letter.....	90	X	X
(a) At beginning of sentence.....	30	3,150	.010
(b) At beginning of quotation ¹	9	X	X
(c) Beginning proper nouns or adjectives.....	51	1,615	.316

¹ Chances not computed; see page 175.

For Group XI no computations could be made.

In Group XII, "Mistakes in Spelling:"

	Errors	Chances	Error quotient
42. (a) Hyphen omitted in compound words.....	139	274	.507
43. Misspelling of "to," "too," and "two".....	8	1,828	.004
44. Misspelling of "there" and "their"...	10	476	.021

In Group XIII, item 46, "Misuse of Quotation Marks," 19 mistakes were made in 177 chances, an error quotient of .11, i.e. about 11 times out of 100 chances.

TABLE 97.—ERROR QUOTIENTS, ARRANGED IN ORDER OF IMPORTANCE
(The figures indicate the number of errors that may be expected in school compositions in 1,000 chances)

Rank	Item Table 90	Description	Quotient
1	32a	Comma setting off dependent clause out of its natural order omitted.....	650
2	31	Name of city and state written without punctuation.....	600
3	29	Independent clauses of compound sentences not separated.....	578
4	42a	Hyphen omitted in compound word.....	507
5	32d	Non-restrictive clause not set off.....	495
6	28	Members of series not separated.....	492
7	30	No punctuation after introductory expression.....	458
8	32c	Comma before, after, or in broken, quotation.....	447
9	4	Use of objective for possessive with gerund...	444
10	34	Wrong form of possessive nouns.....	427
11	6	"You" used indefinitely.....	390
12	37c	Failure to capitalize proper nouns and adjectives.....	316
13	33a	Failure to distinguish "it's" and "its".....	290
14	32g	Interrogation mark omitted.....	259
15	15	"Only" misplaced in sentence.....	237
16	35	"O'clock" written without apostrophe.....	231
17	14	Use of "most" for "almost".....	222
18	36	Miscellaneous misuses of apostrophe.....	211
19	27b	No period after titles.....	193
20	27c	No period after abbreviation.....	147
21	46	Misuse of quotation marks.....	110
22	8b	Wrong number of verb with expletive "there"	76
23	10b	Wrong form in past participle.....	42
24	27	No period (group total).....	30
25	2	Predicate nominative pronoun in wrong case..	22
26	44	Misspelling of "there" or "their".....	21
27	27a	No period at end of sentence.....	19
28	37a	Failure to use capital at beginning of sentence.	10
29	1b	Pronoun object of verb in wrong case.....	6
30	3	Pronoun object of preposition in wrong case..	4
31	21	Incomplete sentence.....	4
32	43	Misspelling of "to," "too," or "two".....	4
33	10a	Wrong form in past tense.....	2
34	1a	Pronoun subject of verb in wrong case.....	.3

The various items may now be rearranged in the order of their importance on the basis of the error quotients. In each case the figure following the item would be an index of the proportionate number of times the error would probably be made in school writings in 1,000 chances.

Similar error quotients might be computed for all of these items for each of the various school levels. This should probably be attempted as an independent study with a larger body of material for each of the grades represented. The purpose in working out the above table was to illustrate the method of computing error quotients, and to show that the relative frequency of any error in a total number is a method of weighting open to objections on the basis of emphasis. The practical value would rather lie in having schools or teachers compute such tables for their own classes.

Validity of Error Studies as a Basis for the Grammar Course.

There are certain considerations which weigh against the value of error studies as guides in determining the curriculum in grammar.

1. One who makes such a study is influenced by the personal factor in judging whether or not to include certain errors. Different tabulators will observe different standards. That this is an important factor in some categories may be illustrated. In Category VII, "Failure to Express Clear Meaning," the ranks are considerably higher in Dr. Lyman's and in this study than in Johnson's study. Table 92 shows rank 5 and rank 3 for these in the high-school studies as compared with rank 12 in Johnson's study. In the same category University of Illinois freshmen rank third and Kansas City pupils twelfth. The present study ranks this error third, while Dr. Lyman's gives it a ranking of fifth.

2. The studies of error, even with large masses of material, present only a limited indication as to the relative value of the various topics that might be included in a grammar course. Such studies may point out some of the important items for drill. But the topics usually gleaned from such a list include only a small part of the material we must evaluate, if we are to make a thorough-going review of the whole

content of the subject. The Charters-Miller list of oral errors mentions twenty-one topics that should be given attention, and the list of written errors twenty-seven topics.

3. The positive value of error studies is not to be minimized, but traditional grammar courses in English have labored under such a heavy burden of classical adaptations that we must know what to eliminate,—what we may safely eliminate. Only by a study of frequency of use as well as of frequency of error can we find a basis for a revision of the course of study in grammar.

CHAPTER XI

PRESENT-DAY SCHOOL PRACTICE AND THE PLAN FOR REVISION

Textbooks the Basis of School Language Courses.—Keeping in mind the standards we have derived from our study of grammatical usage and errors, we may now proceed to evaluate the course of study in common use in the schools by comparing the relative importance given various topics in the grammar text books in general use with the values we have established as a result of our studies in use and error. The average course of study is mapped out for teachers in terms of the number of pages in a designated text to be covered in a year or a semester. Few teachers are permitted to deviate greatly from such routine assignments.

Analysis of Ten Leading Textbooks.—In carrying out this method of analysis of text books, a selection of ten was made from a large list. Most of the texts selected are very widely used at the present time.

The Texts Selected.—The texts selected for analysis with the date of copyright are listed below. The title pages are reproduced in full in Appendix A, for the identification of the particular volume in a series, or the particular edition examined. It was the aim to select such as were designed for use in the upper grades, where grammar is usually given its principal emphasis and technical elaboration.

The texts examined were as follows:

1. Whitney: "Essentials of English Grammar" (1877).
2. Baskerville and Sewell: "An English Grammar" (1895).
3. Maxwell: "School Grammar" (1907).
4. Blount and Northup: "An Elementary English Grammar" (1911).
5. Manly and Bailey: "Lessons in the Speaking and Writing of English," Book Two (1912).

6. Pearson and Kirchwey: "Essentials of English," Second Book (1915).
7. Elson, Lynch, and Marsh: "Good English," Book Two (1916).
8. Spaulding, Bryce, and Buehler: "Aldine Third Language Book" (1917).
9. Potter, Jeschke, and Gillet: "Oral and Written English," Book Two (1917).
10. Driggs: "Live Language Lessons," Third Book (1918).

Method of Analysis.—The comparison of the texts was made as nearly as possible in respect to the same topics that were investigated in the study of usage, i.e., the N. E. A. terminology. But it was found that provision had to be made for a considerable number of topics treated exclusively in one or another of the books, as well as others that were treated in several but not in all texts.

In order to make the record as objective as possible, and to reduce the comparison to the finest degree practicable, the number of lines devoted to each topic was tallied. A number of arbitrary regulations in making the record had to be laid down at the outset, as follows:

1. Size of type was disregarded. This would make some difference in the total contents of a book, but little difference in the relative amount of space devoted to each topic.

2. All parts of lines were counted as full lines.

3. Illustrations used in text or exercises were estimated at about their equivalent in lines.

4. A separate record was kept of "text" and "exercises." In the former were included all rules, explanations and examples; in the latter all sentences for practice in analysis, diagraming, parsing, etc., and the directions as to what was to be done with them.

5. Material dealing with two or more topics at the same time, usually in a comparative discussion, was divided equally between the topics.

6. Some topics were treated so distinctively in one connection, e.g. punctuation with the constructions involved, that it was not tabulated under both topics that were involved.

General Trends in Language Work.—It is impracticable to reproduce here the detailed tabulation that was made. In

dealing with the sentence as a whole and with phrases, there was a table involving 29 different topics, with separate columns of "text" and "exercises" for each of the books. Clauses were dealt with under 18 topics; nouns, 17; pronouns, 20; case uses, 25; verbs, 49; adjectives, 13; adverbs, 8; prepositions, 5; conjunctions, 7; and interjections, 1.

From these detailed tables devoted to the various topics that were taken account of in the analysis, it is apparent at first glance that there is no consistent principle underlying the making of grammar textbooks or the planning of grammar courses.

Some of the detailed facts in the tabulations may be used as concrete illustrations of these two propositions:

1. There is the widest variation among the different texts in the treatment of the same topic.

2. There are marked inconsistencies in most of the texts in the relative importance attached to different phases of a general topic.

Wide Variations in Emphasis.—The most impressive fact in all of the tables is the wide variation in the total number of lines devoted to the large, general topics enumerated a few paragraphs back.

The material dealing with "The Sentence" as a whole ranges all the way from 370 lines of text to 1,878 lines, while in the matter of exercises on the sentence the range is all the way from 381 to 1,449 lines. "Sentence Analysis" may be taken as an illustration of the variation between texts. Two of the recent books (the Elson and the Aldine) give no explanation of sentence analysis, while most of the texts devote in the neighborhood of 70 to 80 lines to this topic.

The table dealing with nouns may be taken as another illustration of variation in emphasis. The total number of lines devoted to nouns ranges all the way from 145 to 1,084.

On pronouns we find one book (the Driggs) giving only 190 lines of discussion and explanation with 359 lines of exercises, while all other texts range higher in the matter of explanation, up to 1,205 in the highest (the Baskerville and Sewell), and only one text (the Pearson-Kirchwey) exceeds

the first named (the Driggs) in number of lines of exercises.

Case forms of pronouns, which on the basis of usage and error we judged to be a rather important topic, is given no explanation in two of the most recent texts, and very little in two of the others, while three of the older texts devote from 125 to 150 lines to the subject.

The more recent when compared with some of the older texts, give scant attention to the explanation of case uses but give as much or more to exercises on the subject.

Some Marked Inconsistencies.—A few items from the table that was made on "Case Uses" may serve to illustrate some of the inconsistencies of grammar-text making. The relative amount of attention given to the different constructions of the genitive case is one of the best illustrations. Our previous analyses have shown that the genitive of connection outranks the possessive use, and both far exceed the use of genitives with the gerund. On the basis of use and error combined, the relative importance of these three constructions would be similar to that founded on usage alone.

One grammar (Baskerville-Sewell) devotes 45 lines to the genitive case as a whole, with no special attention to the uses of possession and connection, while 61 lines are devoted to the treatment of the genitive with the gerund. Another text (the Pearson-Kirchwey) deals with the genitive case uses by devoting 2 lines to the genitive in general, 5 to the genitive of possession, 7 to the genitive of connection, and 16 to the genitive with a gerund. One of the most surprising discoveries in the analysis of different texts was to find that one text, a recent, very popular, and, on the whole, most excellent text, has not a single line on any of these topics, —possessive modifiers, genitive case of nouns, genitive case of pronouns, or on any phase of the uses of the genitive case. This text has entirely omitted any mention of one of the most important and difficult phases of written expression.

Another important topic, and recognized as such by a number of grammarians, is that of "number" in nouns. One

of the texts devotes 51 lines to the topic, another six times that number.

The topic of tense forms may be taken as an illustration of both principles of variation and inconsistency. The number of lines devoted to tense forms varies all the way from 31 to 140 in the explanatory sections. The inconsistencies appear in the few lines devoted to the more important tenses, present and past, and the relatively large amounts to tenses not frequently used,—(notably in the Elson and in the Potter, Jeschke, and Gillet texts).

The discussion of mood again illustrates the traditional evaluation, often so inconsistent with the principle of usage. Seven of the texts devote the major part of their discussions on mood to the subjunctive. All but one of these give the indicative mood but slight attention.

The treatment of adjectives serves as a good illustration of variation in the attention given to a single large topic. One text (the Driggs) gives adjectives 194 lines of discussion, with 234 lines of exercises. Another (the Baskerville-Sewell) has 1,220 lines of discussion and 160 of exercises. In the classification of adjectives and in the discussion of degree there is the widest possible range. Some texts devote several hundred lines to topics not touched on at all in others, and texts giving extended discussions to certain topics completely disregard their own evaluation of them in the space devoted to exercises.

The treatment of prepositions shows again how one topic may receive excessive discussion when compared with all the others. Six of the most popular texts devote less than 100 lines each to the discussion of prepositions, while one text (the Baskerville-Sewell) has 693.

A separate table kept on the "Uses of the Infinitive" shows that a few text-book writers have had the courage to eliminate some of the topics which were shown in our study of usage to be comparatively worthless. Two of the recent texts (the Aldine and the Driggs) give no discussion or exercises on the uses of the infinitive. One of the earlier texts (the Whitney) devotes 203 lines of discussion and 51 of exercises

while another older text (the Baskerville-Sewell) devotes 121 lines of explanation, and 31 of exercises to this topic. Three more recent books (the Blount-Northup, the Manly-Bailey, and the Pearson-Kirchwey) give 112, 163, and 122 lines of "text" and 89, 45, and 108 lines of exercises respectively.

Developments in the Language Course.—The results of the detailed tabulation were analyzed in a comparative way. Some of these results may be presented in condensed tabular summaries, which will reveal the broad outlines of modern tendencies in the language-grammar course.

TABLE 98.—DECREASE IN THE PERCENTAGE OF TECHNICAL GRAMMAR IN LANGUAGE TEXT BOOKS

Text	Date	Total no. of lines	Per cent technical grammar
1. Whitney.....	1877	9,554	100
2. Baskerville-Sewell.....	1895	9,960	100
3. Maxwell.....	1907	7,788	88
4. Blount-Northup.....	1911	7,801	100
5. Manly-Bailey.....	1912	9,730	58
6. Pearson-Kirchwey.....	1915	12,081	69
7. Elson.....	1916	10,157	45
8. Aldine.....	1916	11,710	48
9. Potter, Jeschke, Gillet.....	1917	12,727	62
10. Driggs.....	1918	10,400	55

From these tables it must seem quite clear that two general preliminary statements in regard to the course of study in grammar in the elementary schools may safely be made:—

1. That no subject in the elementary curriculum has undergone so much change and revision in recent years as the course in grammar.

2. That for none of the subjects in the elementary curriculum has there been so little basis in careful investigation for the changes that have been made.

Reduction in Amount of Technical Grammar.—The former of these statements can easily be verified by reference to several or all of the succeeding summary tables.

The first of these, Table 98, shows that there has been a reduction of 50 per cent in the amount of technical grammar in the text-books during the last forty years. Most of this reduction has occurred during the last twenty years, if the texts selected may be judged to be fairly representative.

Increase in the Use of Exercises.—Table 99 indicates the division of the material dealing with technical grammar in each

TABLE 99.—INCREASE IN THE PERCENTAGE OF PRACTICE EXERCISES IN GRAMMAR TEXTS

Name of text	Technical grammar		Per cent of exercise
	Text	Exercise	
1. Whitney	7,738	1,658	17
2. Baskerville-Sewell	7,804	2,156	21
3. Maxwell	4,829	1,942	28
4. Blount-Northup	4,038	3,739	48
5. Manly-Bailey	3,983	1,701	30
6. Pearson-Kirchwey	4,609	3,632	44
7. Elson	2,984	1,638	35
8. Aldine	3,020	2,556	46
9. Potter, Jeschke, Gillet	3,915	3,948	50
10. Driggs	2,810	2,904	51

of the books as between "text," devoted to rules, definitions, and explanations of grammatical technique on the one hand, and "exercises" on the other. It will be seen that there has been a remarkable transition from the mere memorization of text material to the application of rules in practice work. The percentage of space devoted to exercises increases from 17 per cent in the Whitney grammar to approximately three times that amount in the more recent books.

Composition and Rhetoric in the Grades.—Next we note the introduction of material in the grammar texts along lines of

composition and rhetoric to such an extent that in many cases the importance of the newer element is justified by the selection of a title for the text-book that does not feature the idea of technical "grammar," but rather indicates the tendency to have the work considered as "language" work. Such titles as "The Mother Tongue," "Studies in English," etc. indicate the tendency. The analysis of the contents of these texts shows (see Table 100) that the amount devoted to composition and rhetoric material in the language-grammar books for the upper grades ranges from zero in the earlier texts to one-third or more of the total number of pages in the more recent books.

Literature in the Language Texts.—A fourth tendency concerns the introduction of material devoted to the study of literature. The amount of such material included in the language-grammar books is not by any means a complete indication of the movement for the modification of the course of study in "English" in the upper grades. A great deal of this sort of work has been introduced with the use of English classics similar to, but of a simpler kind than, those used in the English courses in the high school. Taking the figures as they stand, however, in the language texts themselves, it may be seen that there is a considerable use of this sort of material, and that in one text it constitutes fully one-fourth of the book. It is pertinent to remark in this connection that such material is introduced in the elementary schools with a double purpose in mind far more clearly than is the case with the high school. In the latter, the study of English classics is more frankly devoted to a development of appreciation; but in the elementary schools, in addition to this cultural aim, there is the aim of using the material for the purpose of influencing the pupils' language habits. (See Table 100.)

Two other elements must be noted to make the broad analysis of grammar texts complete.

Some of the books deal with punctuation in such a way that a record could be kept of the varying amounts given to this topic. The facts are shown in Table 101.

TABLE 100.—RHETORIC, COMPOSITION, AND LITERATURE IN ELEMENTARY LANGUAGE TEXTS

Text	Composi- tion and rhetoric, no. of lines	Per cent of composition	Literature, no. of lines
1. Whitney.....	0	0	0
2. Baskerville-Sewell.....	0	0	0
3. Maxwell.....	300 ¹	4	0
4. Blount-Northup.....	0	0	0
5. Manly-Bailey.....	2,651	27	841
6. Pearson-Kirchwey.....		32 ¹	
7. Elson.....	1,833	18	2,815
8. Aldine.....	4,009	34	573
9. Potter, Jeschke, Gillet.....	3,099	24	541
10. Driggs.....	3,722	37	569

¹ Estimated.

TABLE 101.—PUNCTUATION MATERIAL AND "DISTINCTIVE" MATERIAL IN LANGUAGE TEXTS

Text	Punctuation material, no. of lines	"Distinctive" material
1. Whitney.....	1	158
2. Baskerville-Sewell.....	1	1
3. Maxwell.....	268	1,459
4. Blount-Northup.....	1	24
5. Manly-Bailey.....	464	190
6. Pearson-Kirchwey.....	1	1
7. Elson.....	319	568
8. Aldine.....	646	906
9. Potter, Jeschke, Gillet.....	484	740
10. Driggs.....	176	219

¹ No record was made.

In the same table are given the number of lines of "distinctive material" found in each text. In some of the language books, there are many topics not concerned with technical grammar, composition, rhetoric, or literature, as, for instance: Spelling Difficulties, Homonyms, The History of the English Language, Idioms and Slang, The Meaning and Use of Grammar, The Divisions of Grammar, Etymology, The Use of Italics, Small Capitals, Explanations of Inflection and Syntax, etc.

Suggestions for Revision of Language Courses.—From the studies that have been made, both of developmental trends in language usage and of errors in speech and composition, it seems within bounds to say that the last few years of the elementary school and the early high-school years constitute the critical period for language mastery. These years correspond roughly to the period during which the most intensive work in technical grammar drill has heretofore been carried on. It is only in connection with the recent modification of this strictly technical course that language texts have been adopted for the lower grades as a part of a series of so-called graded lessons. No effort was made in the present study to trace this development in the elementary school curriculum, for the general situation is well-known to those familiar with the history of courses of study.

In our analysis of the text books, perhaps the most striking fact shown is the transition from parsing, classification, analysis, and drill on rules and definitions to the type of exercise that compels expression, or functional application of grammatical technique. The increased emphasis on "exercises" in recent years might mean nothing by itself. But when the spirit of many of the "exercises" is examined carefully and is taken in connection with the rapid extension of "composition" work in the books, the trend toward functional language work must be recognized as a decided improvement in the school courses. If the emphasis put on the overcoming of common errors in the last five years is also considered, we will recognize more than a desire to meet the actual needs; we will discern some progress in the direction

that will have to be followed in continuing our revision of school courses in language and grammar.

Drastic Eliminations Needed.—The first need in grammatical revision is a thorough-going elimination of all but the elements of technical grammar. The revelations of the Kansas City and other error studies showed the need for drill on only a few critical forms. The conclusions from the present study should reinforce the suggestions growing out of the error studies. If we must have a complete 'résumé of technical grammar, with its rules, definitions and classifications, convenient for occasional reference, this might easily be condensed into a compact outline of a few pages to be relegated to an appendix in a language book for the upper grades or the junior high school, so that teachers would have the slightest possible temptation to use it for "recitation" purposes. This would leave the main body of the text book free for constructive exercises in the use of the most common and the most needed elements, which have been pointed out in the summaries of the successive chapters.

Developmental Trends Must Be Stimulated.—The present study brings out needs in the development of language mastery that have not been recognized heretofore, either in the earlier technical treatment or even in recent reforms based on error studies. By establishing adult standards of usage, and by comparing usage in school compositions, often in the form of clearly-marked developmental trends, with the adult standards, two valuable principles were impressed:

1. Constructions helpful in securing precision, simplicity, or variety in expression are not developed rapidly and uniformly enough for effective language mastery.

2. Some of the more valuable grammatical devices seem to be consciously avoided for several years when there is probably a growing need for help to overcome language difficulties.

Every one of the constructions and devices that appeared to be of this nature from an analysis of the statistics was pointed out in its proper connection. It only remains here to repeat in a general way the constructive values that can

be gained from introducing in the language work exercises, even though they be artificial, which shall so familiarize the pupil with these constructions as to make their use easy and ready as a substitute for the more clumsy circumlocutions that are commonly used. On the basis of these developmental trends toward the adult standard, we have the cue for an enrichment of the content and an improvement of the method in language courses that should prove most valuable in the pupils' language control.

Basis for Revision of Grammar Texts.—We may now, in conclusion, compare in summary form the evidence for revision and elimination in grammar texts in the light of our criteria of adult usage and common errors. The specific topics discovered for emphasis or elimination in the revised language course were pointed out in detail in connection with each of the main divisions of grammar taken up in Chapters II to XI. Important phases of development in language mastery were also described in connection with the various tables and diagrams relating to school usage.

It only remains, therefore, to recapitulate, in a very general way, the principles of the grammar curriculum that have been presented in the summary sections of each of the chapters.

I. Much of the traditional course in grammar may safely be relegated to an appendix in the text book. We have at least two scientific criteria, frequency of usage and frequency of error, to show what refinements of logical technique have no place in a course which has such an important function as the inculcating of correct habits of speech and writing, and which has so largely failed in its outcome because the time devoted to the subject has not been profitably employed. So much time has been taken on non-essentials in classification, analysis, and parsing that the important functional values could not be adequately emphasized.

II. The fundamental method of determining the content of an English grammar course must be, with only occasional exceptions, the relative frequencies of usage.

(a) This method is more complete in its analysis than the only other scientific method that has been applied,—the fre-

quency of error. Every item of technical grammar can be considered and given its relative value.

(b) This method must precede the analysis of error. While the latter may serve to modify in some cases the findings according to frequency of usage, it can only draw conclusions, if employed by itself, from the relative frequency of individual types of error, either on a basis of percentages of the whole number of errors, as was done in the Charters-Miller study, or on a basis of ranking, as was done in the Lyman and Johnson studies. While in some cases, these bases of comparison and evaluation yield valuable results, still it was shown clearly in Chapter X that exaggerated importance may be given to one type of error; or an undervaluation of the seriousness of the error may result in other cases. Other methods of weighting the errors must be experimented with, but the "error quotient," wherever it can be determined, can never be disregarded. An error which occurs five times in five chances is far more important to deal with than one that occurs ten times in a hundred chances. The latter must be attacked from an entirely different angle. It is not an error of ignorance, as the former probably is. It is not a knowledge of grammar we have to impart in the case of errors which frequency of usage shows to be a matter of mere carelessness, even if such errors may outnumber others in any given body of material.

III. However, as a complementary principle to the foregoing, it is also true that frequency of usage cannot alone be taken as a criterion of grammatical teaching. It has been pointed out in detail, in the summaries, that there are a number of grammatical phenomena which occur very frequently. But, since they seem to offer no opportunity for error, their relative importance on the basis of frequency in use must be modified. Other constructions present such evidence of common violation that they must be emphasized out of proportion to their relative frequency of use.

On the basis of these two complementary principles of usage and error, what topics should be emphasized in the English grammar course and what topics may be eliminated

will now be stated in a summary list, the detailed facts for the reasons given for such evaluation having been presented in the discussion in Chapters II to XI.

1. THE SENTENCE, ITS FORM AND STRUCTURE.

(a) The distinction between simple, compound, and complex sentences is fundamental. The correct use of clauses hinges on the understanding of the distinction between complex sentences and the other two types. Violations of sentence completeness often hinge on the lack of clear understanding between the principal and dependent clause distinctions. Important rules of punctuation hinge on both the compound and complex sentence structure. Refinements of classification, such as compound-complex and complex-compound, are unwarranted on the basis of usage.

(b) The emphasis on the distinctions according to meaning,—the declarative, interrogative, imperative, and exclamatory forms,—seems far less important; on the basis of usage, the distinction warrants no emphasis. The chances for error in punctuation of the interrogative and exclamatory sentences are so rare that this principle can give very little basis for endless exercises in classification.

2. CLAUSES.

(a) The three types of clauses,—adverbial, adjectival and substantive,—are practically of equal importance so far as frequency of usage is concerned. The drill on classification exercises seems unwarranted, however, since the functional distinctions serve no purpose in sentence control.

(b) The distinction between restrictive and non-restrictive adjectival clauses should be emphasized. The rule for the comma, with non-restrictive clauses, so often violated and usually so important for clearness, occurs frequently enough to receive attention.

(c) The entire sections on the uses or constructions of substantive clauses and on the distinction of adverbial clauses as to meaning might be eliminated. These have been over-worked phases of the analytical grammars, but the distinctions serve no purpose in English speech control.

3. PREPOSITIONAL PHRASES.

This section should receive attention, so far as frequency of use is concerned; but error studies show the difficulty here is not one of a grammatical nature. Word studies, in a language course, may well put emphasis on diction faults in the use of the wrong prepositions or on types often confused.

4. THE NON-MODAL VERB FORMS.

(a) The infinitives, participles, and gerunds, are all quite important so far as frequency of use is concerned. Error studies emphasize this importance.

(b) But the type of material presented in the course in grammar should be quite different from that now commonly taught. Much of the material on non-modal forms in the texts, except in a few of the more recent books, deals with the uses of the infinitive and the constructions of the substantive infinitive. The criteria of both use and error advise that such material should be eliminated; material having reference to such topics as "split infinitives," the genitive case use with the gerund, and especially the confusion of past participle and past tense forms, would prove far more helpful.

5. PARTS OF SPEECH.

We have a general, fundamental guide as to the relative importance of the various parts of speech and the treatment each should be given, in the relative percentage of each in the total number of words. This has already been presented in the summary discussion in Chapter V, and need not be repeated here. We will take up the parts of speech in succession and state the topics for emphasis and elimination in connection with each.

6. NOUNS.

(a) Declension should be simplified and the time devoted to it should be reduced.

(b) One case, the genitive, demands considerable emphasis; probably all the attention that is given to declension might be devoted to this case, considered on the basis of frequency of error rather than on the basis of frequency of use. However,

this is a striking illustration of the need of weighting error by usage. In the Charters-Miller list, the errors in possessive cases rank fifth. Computation according to "error quotients" shows that this is probably the most important of all grammatical errors outside of those involving punctuations.

(c) Along with the simplification of declension should go simplification of the case constructions of nouns, at least the nominative, dative, and accusative. A few exceptions, perhaps, should be made for the nominative of address, or exclamation, because of punctuation difficulties, but these need not be taught in connection with the technique of inflection. Similarly, a simple treatment of appositives is necessary, but not for each of the cases as construction forms.

(d) Frequency of use also indicates that a different interpretation should be put on the genitive case. Its use to express "connection" far exceeds its use to express "possession." The change in nomenclature from "possessive case" to "genitive case" is fully warranted.

(e) The puzzling exercises so often used in the parsing of nouns as to their classification as common, abstract, etc., serve no useful purpose. The whole section might be eliminated, except the identification of proper nouns for the sake of capitalization. Both frequency and error criteria emphasize this view.

7. PRONOUNS.

(a) The declension of pronouns as an important topic in grammar is fully warranted both by the criterion of usage and that of error. But on the same grounds, some of the constructions in the various cases may either be eliminated or treated very briefly. In the nominative case, the constructions of "address," "exclamation," and "absolute with a participle" may be slighted. In the accusative case all constructions except the direct object, object of a preposition and subject of an infinite clause may safely be eliminated. About 95 per cent of the cases are included in these three constructions.

(b) A matter relating to pronouns which was not recorded in connection with the frequency of usage, and for which

chances could not be tallied in the study of errors, but which is shown to be of considerable importance by the frequencies of error, has to do with the agreement of pronouns with their antecedents. This involves both personal and relative pronouns. Considerable emphasis upon this phase of the study of pronouns is warranted.

(c) Sections of grammar devoted to the division of pronouns into classes—personal, relative, etc.—have been too extended and the refinement carried too far for the sake of completeness. Reciprocal, intensive, identifying, and even interrogative pronouns are infrequent, and may be slighted. Whatever attention is given to the others should relate to case forms and construction, rather than to class distinctions in parsing exercises.

8. ADJECTIVES.

(a) For the sake of capitalization the topic of proper adjectives must be emphasized. While frequency of usage does not show a great need for emphasis, the criterion of error possibilities advises emphasis.

(b) In the matter of comparison of irregular adjectives, frequency of usage warrants considerable emphasis, and frequency of error demands it.

(c) The same refinement of classification made in pronouns is often carried over in the text books to the classification of pronominal adjectives. The classification of pronominal adjectives serves no useful purpose. The time devoted to this should rather be given to a few characteristic errors, like the substitution of a personal pronoun for a demonstrative pronominal adjective, for instance. The error can be attacked without wasting time on the classification. Constructive exercises to stimulate a freer use of pronominal adjectives should also be employed.

(d) Articles constitute a large factor in one's vocabulary. However, they offer such a small field for error,—the use of the wrong indefinite article,—that attention need be given only to this matter.

(e) While a separate record was kept of the numerals, there seems to be no reason why they should be given more than slight attention as a possible subdivision of the adjective.

9. ADVERBS.

Adverbs constitute a minor part of the total vocabulary and present little occasion for error. The irregular adverbs are mostly the "more" and "most" modifiers of adjectives in comparisons, with occasional use of these, or others of the irregular adjective forms, in adverbial functions. The whole matter can be taken care of almost entirely in connection with the subject of comparison of adjectives, although a review of the irregular forms in the new connection would not be out of place.

10. CONJUNCTIONS.

As separate parts of speech, the conjunctions require but little discussion. The place for their treatment will be in their functional connections with compound and complex sentences.

11. VERBS.

(a) The whole matter of verbs, because of conjugational complexities, warrants extended treatment in the course in grammar.

(b) Some of the forms, introduced or retained for completeness, may probably be given more summary treatment than is customary, following the criterion of infrequent usage. Labored emphasis on subjunctive forms seems unwarranted. We find these constitute only eight-tenths of 1 per cent of the predicates, with about three for every 200 sentences. The few forms most commonly used should be given attention without memorization and drill on the whole paradigm of the subjunctive mood.

(c) Another matter often overdone is the uses of "shall" and "will," non-future. Popular usage seems determined to over-rule the grammatical niceties here, and, after all, judging by infrequency of usage, there is little occasion for the quarrel. The non-future uses of "shall" and "will" occur about once

in every 250 sentences; the future tense uses constitute 4.5 per cent of all tense forms. We find a future tense in only every tenth sentence, and the future perfects are very rare.

(d) Emphasis on the different tense forms should be far from equally distributed, with the present and past forms receiving the largest part of the attention.

V. Present-day school practice in the teaching of grammar, in view of the objective studies in both usage and error, must, then, be quite radically revised. It is especially evident that extensive eliminations of technical grammar are advisable, while the retention of a number of topics is equally indispensable.

VI. The relative importance of the various remaining essential topics can be determined. This has been fully outlined in Section IV.

VII. Previous studies in the matter of errors will have to be revised by some system of weighting. Several are suggested. That of "Error Quotients" was attempted, but the results cannot be considered highly satisfactory. A weighting according to judgments as to relative "heinousness" is also suggested.

VIII. Different standards of content can and should be determined for different levels of school work. There is such clear evidence of development in grammatical usage from the grammar-school stage to maturity that instruction in language work can be graded quite accurately with reference to needs at almost every stage of advancement. The material in such a course is quite generally graded in practice now, as an examination of the texts and of superintendents' manuals shows. But the grading is largely a matter of guess work, or a distribution of material on logical considerations. There are two definite, objective modes of approach to scientific grading,—different usage at different levels, and persistence of errors at different ages. Even if we were to admit that the study of technical grammar functions in language mastery, our present methods of grammar teaching and our selection of subject-matter are seriously at fault in teaching a large body of technique long before it is needed, or before the child has a working knowledge of the distinctions involved. Scientific

principles of language mastery can be deduced from psychological principles of language usage, supplemented by considerations of errors, their frequency, persistence and social seriousness. All of these factors can be quantitatively determined.

APPENDIX A

TITLE PAGES OF GRAMMARS ANALYZED IN CHAPTER XI

For exact identification the title pages of the editions of grammars analyzed in Chapter XI are given below:

"Essentials of English Grammar" for the Use of Schools by William Dwight Whitney, Professor of Sanskrit and Comparative Philology, and Instructor of Modern Languages in Yale College; Author of . . . etc." Ginn & Co. (Boston, etc.). Copyright, 1877.

"An English Grammar" for the Use of High School, Academy, and College Classes, by W. M. Baskerville, Professor of the English Language and Literature in Vanderbilt University, Nashville, Tennessee; and J. W. Sewell, of the Fogg High School, Nashville, Tennessee. American Book Co. (New York, etc.). Copyright, 1895.

"School Grammar" by William H. Maxwell, M. A., L. L. D., City Superintendent of Schools, the City of New York. American Book Co. (New York, etc.). Copyright, 1907.

"An Elementary English Grammar" by Alma Blount, Ph. D., Instructor in English in the Michigan State Normal College, and Clark Sutherland Northup, Ph. D., Assistant Professor of English in Cornell University. Henry Holt & Co. (New York). 1911.

"Lessons in the Speaking and Writing of English," Book Two, Composition and Grammar, by John M. Manly, Head of the Department of English, University of Chicago, and Eliza R. Bailey, Teacher of Elementary English in Boston. D. C. Heath & Co. Publishers (Boston, etc.). Copyright, 1912.

"Essentials of English," Second Book, with Terminology Recommended by the 'Joint Committee on Grammar Nomenclature,' by Henry Carr Pearson, Principal of Horace Mann

School, Teachers College, Columbia University, and Mary Frederika Kirchwey, Instructor in Horace Mann Elementary School, Teachers College, Columbia University. American Book Co. (New York, etc.). Copyright, 1915.

"Good English" Oral and Written—Book Two, by William H. Elson, author Elson Readers; Clara E. Lynch, Supervisor of Instruction, Cleveland, Ohio; and George L. Marsh, Ph. D., University of Chicago. Scott, Foresman & Co. (Chicago, New York). Copyright, 1916.

"Aldine Third Language Book," Language, Grammar, Composition, Grades Seven and Eight, and Junior High Schools, by Frank E. Spaulding, Superintendent of Schools, Cleveland, Ohio; Catherine T. Bryce, Assistant Superintendent of Schools Cleveland, Ohio; Huber Gray Buehler, Headmaster of the Hotchkiss School, Lakeville, Connecticut. Newson & Co. (New York). Copyright, 1917.

"Oral and Written English," Book Two, by Milton C. Potter, Litt. D., Superintendent of Schools, Milwaukee, Wis.; H. Jeschke, M. A., formerly teacher of English, Cleveland Central High School; and Harry O. Gillett, B. S., Principal, Elementary School, University of Chicago. Ginn & Co. (New York, etc.). Copyright, 1917.

"Live Language Lessons," Three-book Series, Third Book, Howard R. Driggs, Professor of Education in English and Principal of the Secondary Training School, University of Utah, Salt Lake City. The University Publishing Co. (Chicago and Lincoln). Copyright, 1918.

INDEX

A

Abstract nouns

- adult usage, 101
- in school writings, 102-103

Accusative case

- construction of nouns in, 81-82, 86
- construction of pronouns in, 92
- nouns in, in school usage, 87
- pronouns in, avoided in school usage, 98

Active voice (*see* Verbs).

Adjective clauses, 49-51

Adjective pronouns (*see* Pronominal adjectives).

Adjectives

- adult usage, 138-141
- articles, 139-140, 143
- cardinal numerals, 137, 140-141, 145
- classes of, illustrated, 137
- classes of, relative frequency of, 137
- clauses, adult usage, 50
- clauses, school usage, 51
- comparison of, 146-152
- irregular, adult usage of, 147
- irregular, in school writings, 147-150
- nouns used as, 99, 100
- ordinal numerals, 137, 141, 145
- pronominal adjectives, 137, 140-141, 145
- proper adjectives, 137, 140, 143
- relative frequency, in adult usage, 72
- relative frequency, in school usage, 74-75

Adjectives

- school usage of, 142-146
- used as nouns, 137, 141, 146

Adult usage

- abstract nouns, 101
- active voice, 124-125
- adjective clauses, 50
- adjectives, 138-141
- adverbial clauses, 42
- articles, 139-140
- cardinal numerals, 140-141
- case of pronouns, 93-94
- classes of nouns, 100-102
- classes of pronouns, 106-107
- clauses per sentence, 34
- common adverbs, 153-154
- complex sentences, 21, 24-25
- compound sentences, 21, 25-28
- concrete nouns, 101
- conjunctions, 72, 159-161
- conjunctive adverbs, 153-154
- coordinate conjunctions, 160-161
- copulative verbs, 121
- correlative conjunctions, 160-161
- demonstrative pronouns, 107
- indicative mood, 127
- infinitives, 63
- intransitive verbs, 121
- irregular adjectives, 147
- irregular adverbs, 154-155
- irregular verbs, 114-117
- kinds of complex sentences, 25-27
- kinds of compound sentences, 24
- kinds of sentences, 21
- length of sentences, 17-19
- non-modal verb forms, 62-64

- Adult usage
 nouns, 72
 nouns as adjectives, 99
 participles, 64
 parts of speech, relative frequency, 71-73
 passive voice, 124-125
 personal pronouns, 107
 prepositional phrases, 54
 prepositions, 72
 pronominal adjectives, 140-141
 proper adjectives, 140
 proper nouns, 100
 regular and irregular verbs, 114-117
 relative pronouns, 107
 simple, complex, and compound sentences, 22
 subordinate conjunctions, 160-161
 substantive infinitives, 63-64
 tenses, 129-131
 transitive verbs, 121
 types of dependent clauses, 36-39
- Adverbial clauses, 41-45
- Adverbs
 classes of, illustrated, 152
 common, adult usage of, 153-154
 common, in school writings, 155-156
 common, relative frequency, 154
 comparison of, 154, 155, 156-157
 conjunctive, adult usage of, 153-154
 conjunctive, in school writings, 155-156
 conjunctive, relative frequency, 154
 irregular, adult usage of, 154-156
 irregular, in school writing, 156-157
 relative frequency, in adult usage, 72
 relative frequency, in school usage, 74-75
- Adverbs
 teaching suggestions, 157
- Appositives
 advocated in school writings, 86-112
- Articles, 137
 adult usage, 139-140
 school usage, 143
- Auxiliary verb forms, 118-120
- C
- Cardinal numerals, 137
 adult usage, 140-141
 school usage, 145-146
- Cases (*see* Nouns and Pronouns).
- Charters, W. W. and Miller, Edith
 error study compared, 166, 180-187
- Classification
 of adjectives, 137
 of adverbs, 153-154
 of conjunctions, 159
 of nouns (*see* Nouns, classes of).
 of pronouns (*see* Pronouns, classes of).
- Classification of nouns and pronouns futile, 110
- Clauses
 adjective, 49-51
 adult ratio per sentence, 34
 adverbial, 41-45
 dependent, 33-52
 problems in teaching of, 33
 ratio per sentence, in school composition, 35
 substantive, 45-49
 types of, in adult usage, 36-39
- Comparative degree (*see* Comparison).
- Comparison
 of adjectives, 146-152
 of adverbs, 154-155, 156-157
- Composition in grammar texts, 200-201
- Complex sentences, 21, 24-25

- Compound sentences, 21, 25-28
 Concrete nouns, 101-103
 Conjugation, teaching of, 135-136
 Conjunctions
 adult usage, 159-161
 classes of, illustrated, 159
 classes of, relative frequency of, 159
 coordinate, 159-163
 correlative, 159-163
 relative frequency, in adult usage, 72
 relative frequency, in school usage, 75-76
 school usage, 161-164
 subordinate, 159-163
 teaching suggestions, 163-164
 Conjunctive adverbs, 153-154
 Coordinate conjunctions
 adult usage, 160-161
 relative frequency of, 159
 school usage, 162-163
 Copulative verbs (*see* Verbs).
 Correlative conjunctions
 adult usage, 160-161
 relative frequency of, 159
 school usage, 162-163

D

- Dative case, infrequent use of, 78-79
 Declension exercises unwarranted, 110
 Declension (*see* Nouns and Pronouns).
 Demonstrative pronouns, 107, 108 110
 Dependent Clauses (*see* Clauses).

E

- Error quotients, 14, 165, 175, 187-192
 Error studies, in relation to study of use, 14
 validity of, 192-193

Errors

- as related to use, 165-193
 Charters' list of, 182-183
 correlations between error studies, 177
 list of, used in study, 166-169
 persistence of, 178
 rank of various error types, 173-174
 ratio of, to number of words, 178
 summary of, 169-172
 Exercises in grammar texts, 200

F

- Future perfect tense, 129, 131
 Future tense, 129, 131, 133

G

- Genitive case, importance of, 79-80
 avoided in school composition, 86, 112
 connective use important, 111
 construction of nouns in, 81, 82
 construction of pronouns in, 91
 pronouns in, in school usage, 97
 Gerunds, 59, 69
 Grammar courses, need for revision, 12, 110-112
 Grammar, decline of formal courses, 13
 Grammar, decrease in technical, 199-200
 Grammar, function of rules in, 13
 Grammar textbooks analyzed, 194-215

I

- Imperative mood, 126
 Indefinite pronouns, 107, 109
 Indicative mood, 126-128

Infinitives

- adult usage of, 63
- frequencies of different uses, 61
- in school compositions, 65-68
- substantive use infrequent, 63

Interjections, infrequent use of, 158-159

Interrogative pronouns, drill on, 111

Intransitive verbs (*see* Verbs).

Irregular adjectives, 146-152

Irregular adverbs

- adult usage of, 154-155
- in school usage, 156-157

Irregular verbs, 114-120

- teaching suggestions, 136

J

Johnson, R. I.

- error study compared, 166, 169, 175-177

L

Language teaching, trend in, 195-203

Language work, school problems in, 13

Literature in grammar texts, 201

Lyman, R. L.

- error study compared, 166, 169, 175-177

M

Material used in study, 15

Method of conducting investigation, 14

Mood of verbs, 126-128

N

Nominative case (*see* Nouns and Pronouns).

- construction of nouns in, 80-81, 85

- construction of pronouns in, 91
- of nouns, 80-81

- pronouns in, in school usage, 96

Non-modal verb forms 57-70

- adult usage, 62-64
- examples of, 57, 59
- ratio per sentence, 58-59
- usage in school compositions, 64-68
- wrong emphasis in present courses, 57-58
- (*see also* Infinitives, Participles, and Gerunds).

Noun clauses (*see* Substantive clauses).

Nouns

- abstract, 101-103
- accusative case constructions, 81-82
- case uses, in school compositions, 83-84
- cases of, illustrated, 78
- classes of, adult usage, 100-102
- classes of, illustrated, 99
- classes of, in school writings, 102-104
- classes of, relative frequency, 99-100
- concrete, 101-103
- declension, 78-89
- development in school usage of various cases, 84-87
- emphasis on declension unwarranted, 110
- frequency in different cases, 79
- genitive case constructions, 81
- genitive case important, 79
- nominative case construction, 80-81
- present emphasis in grammar courses, 78
- proper, 100, 104
- relative frequency, in adult usage, 72
- relative frequency, in school usage, 73-74
- teaching of, 87-89
- used as adjectives, 99, 100

- Number, singular and plural, of verbs, 134-135
- Numerals
cardinal, 137, 140
ordinal, 137, 141
- O
- Objective case (*see* Accusative case).
- Ordinal numerals, 137, 141
- P
- Paradigms, wasteful to teach complete, 136
- Participles
adult usage, 64
school usage, 68
- Parts of Speech
adult usage of various, 71-73
relative importance in grammar course, 76-77
relative importance of, 71-77
school usage of various, 73-76
teaching suggestions on, 76-77
(*see* further each of the parts of speech).
- Passive voice (*see* Verbs).
- Past future perfect tense, 129-131
- Past future tense, 129-131
- Past perfect tense, 129-131
- Past tense, importance of, 129
- Persistency of errors, 178
- Person of verbs, relative frequency, 134-135
- Personal pronouns, 107-108
- Phrases, 53-70
non-modal verb phrases, 57-70
prepositional, 53-57
- Plural (*see* Number).
- Positive degree (*see* Comparison).
- Possessive case (*see* Genitive).
- Prepositional phrases, 53-57
development in use of, 55-56
- Prepositional phrases, examples of, 53
importance of, 53
ratio per sentence, adult usage, 54
ratio per sentence in school material, 54
teaching of, 56-57
- Prepositions
relative frequency, in adult usage, 72
relative frequency, in school usage, 75-76
use of wrong prepositions, 158
- Present perfect tense, 129, 131, 133
- Present tense, importance of, 129
- Principal clauses (*see* Clauses).
- Principal parts of verbs, 118
- Pronominal adjectives, 137
adult usage, 140-141
school usage, 145
- Pronouns
accusative case constructions, 92-93
avoided in school compositions, 96
cases, relative importance of, 90
classes of, adult usage, 106-107
classes of, illustrated, 105
classes of, in school writings, 107-110
classes of, relative frequency, 105-106
declension, 89-99
demonstrative, adult usage, 107
demonstrative, in school writings, 108, 110
genitive case construction, 91
indefinite, adult usage, 107
indefinite, in school writings, 109
interrogative, drill on, 111
nominative case constructions, 91
personal, adult usage, 107
personal, in school writings, 108

Pronouns

- present emphasis in grammar courses, 78
- relative, adult usage, 107
- relative, drill on, 111
- relative frequency, in adult usage, 72
- relative frequency, in school usage, 73-74
- relative, in school writings, 109-110
- school usage of accusative case of, 98
- school usage of genitive case of, 97
- school usage of nominative case of, 96

Proper adjectives, 137

- adult usage, 140
- school usage, 143-144

Proper nouns

- adult usage, 100
- in school writings, 104

Punctuation in grammar texts, 202

Purpose of this study, 13

R

Regular verbs, 114-120

Relative pronouns, 107, 109-110

- drill in use of, 111

Restrictive clauses, 49-51

Revision of grammar courses, basis for, 205-213

Revision of grammar courses necessary, 12

Rhetoric in grammar texts, 200-201

S

School usage

- abstract nouns, 102-103
- accusative case of nouns, 87
- accusative case of pronouns, 98
- active voice, 125-126

School usage

- adjective clauses, 51
- adjectives, 142-146
- adverbial clauses, 43-45
- appositives, avoided in, 86, 112
- articles, 143
- cases of nouns, 83-84
- classes of nouns, 102-104
- classes of pronouns, 107-110
- clauses per sentence, 35
- common adverbs, 155-156
- complex sentences, 24-27
- compound sentences, 24-27
- concrete nouns, 103
- conjunctions, 161-164
- conjunctive adverbs, 155-156
- co-ordinate conjunctions, 162-163
- copulative verbs, 121-123
- correlative conjunctions, 162-163
- demonstrative pronouns, 108-110
- dependent clauses, 39-41
- genitive case of nouns, 86
- genitive case of pronouns, 97
- gerunds, 69
- indicative mood, 128
- infinitives, 65-68
- intransitive verbs, 121-123
- irregular adjectives, 147-150
- irregular adverbs, 156-157
- kinds of complex sentences, 26, 27
- kinds of compound sentences, 24
- length of sentences, 19
- nominative case of nouns, 85
- nominative case of pronouns, 96
- non-modal verb forms, 64-68
- nouns, 73-74
- numerals, 145-146
- participles, 68
- parts of speech, relative frequency, 73-76

School usage

- passive voice, 125-126
- personal pronoun, 108
- prepositional phrases, 54-56
- prepositions, 75-76
- pronominal adjectives, 145
- proper adjectives, 143-144
- proper nouns, 104
- regular and irregular verbs, 117-118
- relative pronouns, 109-110
- simple, compound, and complex sentences, 23
- subordinate conjunctions, 162-163
- substantive clauses, 47-49
- substantive infinitives, 67
- tenses, 131-133
- transitive verbs, 121-123

Sentences

- classified according to form, 21
- classified according to meaning, 20
- complex, adult and school usage, 21, 24-25
- compound, adult and school usage, 21, 25-28
- key to English problem, 16
- kinds of, illustrated, 20
- kinds used, 16-32
- length of, in adult usage, 17-18
- length of, in school material, 18
- method of teaching, 29
- simple, 21
- what to teach about, 28

Shall and will, non-future, 135

Singular (*see* Number).

Standards used for comparisons, 20

Subjunctive mood, infrequent use of, 126-135

Subordinate clauses (*see* Clauses, dependent).

Subordinate conjunctions

- adult usage of, 160-161
- relative frequency of, 159

Subordinate conjunctions

school usage, 162-163

Substantive clauses, 45-49

Substantive infinitives

infrequent use of, 63

in school compositions, 67

Superlative degree (*see* Comparison).

T

Teaching suggestions

- adjectives, 144, 149, 150-152
- adverbs, 157
- case of nouns, 87-89
- clauses, 52
- conjunctions, 163-164
- general, 203-213
- irregular verbs, 136
- non-modal verb forms, 68-70
- nouns, 110-112
- parts of speech, 76-77
- prepositional phrases, 56-57
- pronouns, 110-112
- sentences, 28-32
- tenses, 133-134
- transitive verbs, 123-124
- verbs, 135-136

Technical grammar, decrease in, 199-200

Tense of verbs, 128-134

Textbooks in grammar compared, 194-215

Transitive verbs (*see* Verbs).

Trends in language teaching, 195-203

U

Usage, basis of this study, 13

in relation to errors, 14

(*see* Adult usage and School usage).

V

Verbs

- active voice, adult usage, 124-125
- active voice, in school writings, 125-126
- active voice, relative frequency, 124
- auxiliary verb forms, 118-120
- conjugation, teaching of, 135-136
- copulative, adult usage of, 121
- copulative, in school writings, 121-123
- copulative, relative frequency, 120
- intransitive, adult usage, 121
- intransitive, in school writings, 121-123
- intransitive, relative frequency, 120
- irregular, 114-120
- mood, 126-128
- non-modal forms, 57-70
- number, singular and plural, 134-135
- passive voice, adult usage, 124-125
- passive voice, in school writings, 125-126

Verbs

- passive voice, relative frequency, 124
 - person, relative frequency, 134-135
 - principal parts, 118
 - regular and irregular, in adult usage, 114-177
 - regular and irregular, in school writing, 117-118
 - relative frequency, in adult usage, 72
 - relative frequency, in school usage, 74-75
 - relative importance of, 113
 - teaching suggestions, 123-124, 133, 135
 - tenses, adult usage, 129-131
 - tenses, in school compositions, 131-133
 - tenses, relative frequency of, 129
 - tenses, teaching suggestions, 133-134
 - transitive, adult usage, 121
 - transitive and intransitive, illustrated, 120
 - transitive, in school writings, 121-123
 - transitive, relative frequency of, 120
- Voice (*see* Active and Passive under Verbs).

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